City of Oceanside

San Luis Rey Wastewater Treatment Plant

Sewage Sludge Annual Report

1999

City of Oceanside
SEWAGE SLUDGE ANNUAL REPORT - 1999

Date: February 16, 2000

Name of Generator: City of Oceanside Water Utilities Department

Location: San Luis Rey Wastewater Treatment Plant
3950 North River Road
Oceanside, California 92054

Mailing Address: City of Oceanside
Water Utilities Department
300 North Coast Highway
Oceanside, California 92054-2885

Contact Person: Guss Pennell, Environmental Regulatory Compliance Officer

Telephone: 760-966-8795

Flow MGD (average): 8.7 MGD (1999 Effluent average)

Plant Description: The San Luis Rey Wastewater Treatment Plant (WWTP) is an activated sludge treatment facility that has a design capacity of 10.7 MGD. It is a Class I sludge management facility with an approved pretreatment program.

Sludge Treatment Process: This treatment facility has three anaerobic digesters with all in operation at this time. Each digester has a capacity of 630,000 gallons. Normal operation at this facility would consist of two heated and mixed primary digesters (#2 & #3) with a secondary digester (#1) that is heated but not mixed. Primary clarifier sludge is pumped into both of two anaerobic digesters that are mixed and heated. Waste activated sludge is thickened in a dissolved air floatation unit and pumped into the two primary digesters. Digested sludge from the secondary unit would be dewatered and land applied.

The treated sludge was injected with hydrogen peroxide for odor control prior to dewatering from January to March of 1999. Ferric chloride replaced the peroxide in April of 1999. The treated sludge was dewatered with two 2.2-meter filter belt presses. The dewatered sludge (15.6% Total Solids Annual Average) is loaded into 30 cubic yard end dump trailers and trucked to San Diego County (1257.3 Dry Metric Tons) or Riverside County (463.6 Dry Metric Tons) for direct land application to agricultural fields by RPI Bio Gro, a Waste Management Company.

If land application was not possible, Copper Mountain Landfill in Arizona would be the disposal location. No sludge was hauled to Arizona in 1999.

City of Oceanside
SEWAGE SLUDGE ANNUAL REPORT - 1999

Location: San Luis Rey Wastewater Treatment Plant – Continued:

The land application is according to the EPA's protocol for Class B biosolids. The sludge was incorporated into the ground within 24 hours according to Riverside County Ordinance #696. All 1999 hauling was done under contract with Waste Management of North County.

Total Sludge Generated in 1999: 1720.9 Dry Metric Tons

Sludge Delivered to RPI Bio Gro: 1720.9 Dry Metric Tons Total

San Diego County:	1257.3 Dry Metric Tons
Riverside County:	463.6 Dry Metric Tons

Address of Land Application Facility: RPI Bio Gro
172 98th Ave.
Oakland, CA 94603
510-613-2831

Sludge Delivered to Arizona Landfill: 0 Dry Metric Tons

Address of Next Preparer: Copper Mountain Landfill
35 East County 12th Street
Welton, Arizona 85356
520-782-6355

City of Oceanside
SEWAGE SLUDGE ANNUAL REPORT - 1999

Location: San Luis Rey Wastewater Treatment Plant – Continued:

Pollutant Concentrations (Metals): January to December 1999, analyzed monthly but reported as bimonthly averages on Notice and Necessary Information (NANI) certifications. These are attached.

The data below is taken from the monthly data sheets. Metals are expressed as Total and Units are mg/kg Dry Weight. All values are within Table 3 Limits.

§503.13 Pollutants	Table 3 Limits	Jan.	Feb.	March	April	May	June
Arsenic	41	4	4	4	4	ND	5.8
Cadmium	39	3.25	3.20	3.53	4.27	4.8	7.1
Chromium	No Std.	25.4	24.1	25.4	27.1	38.3	73.5
Copper	1500	385	378	299	312	273	321
Lead	300	15.5	14.0	14	10	ND	20
Mercury	17	1.55	1.23	1.2	1.3	2.4	LA
Molybdenum	* 75	14	10	10	10	11.1	19.7
Nickel	420	29.4	27.6	30.8	39.2	46.9	64.0
Selenium	100	10.8	10.9	9.21	9.76	ND	11
Zinc	2800	826	772	694	729	707	781
% T.S.	No Std.	16.0	15.9	16.5	14.6	15.7	15.1

§503.13 Pollutants	Table 3 Limits	July	Aug.	Sept.	Oct.	Nov.	Dec.
Arsenic	41	6.05	6.23	5.18	6.23	6.23	5.29
Cadmium	39	2.21	2.33	2.61	ND	2.69	5.97
Chromium	No Std.	62.9	43.6	32.9	32.8	39.4	34.9
Copper	1500	253	260	292	295	341	344
Lead	300	18.1	19.7	18.1	19.1	40.7	22.3
Mercury	17	1.6	1.64	1.32	0.34	2.44	1.69
Molybdenum	* 75	16.8	13.4	10.6	12.2	10.5	14.5
Nickel	420	47.6	35.5	34.3	29.4	55.9	54.7
Selenium	100	8.25	8.11	9.21	10.8	11.5	12
Zinc	2800	619	654	704	764	666	766
% T.S.	No Std.	14.7	16.2	14.9	14.9	16.4	15.9

* 75 – Molybdenum Limit from Table 1.
ND None Detected
LA Lab Accident, no data for this parameter

City of Oceanside
SEWAGE SLUDGE ANNUAL REPORT - 1999

Location: San Luis Rey Wastewater Treatment Plant – Continued:

Pathogen Reduction: Class B requirements for direct land application in 503.32 (b) (2) Alternative 1 were met by the San Luis Rey WWTP for six bimonthly monitoring periods for January through December 1999. See attached Notice and Necessary Information (NANI) Certificates with the supporting laboratory report.

Vector Attraction reduction: The vector attraction reduction requirements in 503.33 (b) (1) or Option 1 were met by the San Luis Rey WWTP for the bimonthly monitoring periods for January through April and July through December 1999. The 38% reduction in volatile solids requirement was not achieved during May and June 1999. The volatile solids reduction was close (May 36.4% and June 37.3%) to the requirements during the two months of non-compliance. See attached NANI Certificates.

In April 1999 the plant started adding ferric chloride to the primary sludge. This reduced the hydrogen sulfide and slowly improved the operation of the two primary digesters. The sludge level in the #1 secondary digester was lowered to control odors due to the floating cover. This reduced the overall capacity and detention time for the three digesters. Approximately half of the solids entering the primary digesters come from the secondary aeration tanks. These solids are lower in volatile solids content than the raw sludge from the primary tanks. This makes it more difficult to reduce the volatile content through further digesting.

Designs are underway for adding two additional fixed cover pump mixed heated primary digesters. The current #1 floating cover secondary digester will be converted to a fixed cover pump mixed digester as well. The project should be completed by 2004. This should allow adequate capacity for planned build out of the City. A gravity belt thickener will also replace the existing dissolved air floatation thickener for secondary aeration solids. Centrifuges will replace the belt presses during this project. The increases in capacity and solids thickening should correct any deficiencies in the sludge handling system.

RPI Bio Gro incorporates the sludge into the soil within 24 hours as required by Riverside County Ordinance #696. Their usual practice is to incorporate the sludge within six hours. This would satisfy the vector attraction reduction option 503.33 (b) (10) but they cannot certify that this happened 100% of the time. RPI Bio Gro is immediately notified if our wastewater treatment plant experiences a problem and the reduction is going to be less than 38% for several days. RPI Bio Gro will incorporate the sludge within six hours thereby satisfying option 503.33 (b) (10) until our conditions improve.

City of Oceanside
SEWAGE SLUDGE ANNUAL REPORT - 1999

Location: San Luis Rey Wastewater Treatment Plant – Continued:

Notice and Necessary Information (NANI) Certificates: See following pages

NOTICE AND NECESSARY INFORMATION (NANI)

This form is to assist compliance with the bulk sewage sludge (biosolids) notification requirements [503.12(f)]. Please note, however, that if the biosolids meet the exceptional quality criteria, then the notification requirements do not apply. This form can be used by preparers of biosolids to transmit information to land appliers and also by land appliers to transmit information to land owners or lease holders.

Facility and Biosolids Type: San Luis Rey WWTP Dewatered Digested Sludge
Monitoring Period: From 01/01/99 To 02/28/99

To be Completed by PREPARERS of Biosolids

A. Please provide pollutant concentrations

Name	Concentration (mg/kg) Dry Weight	Pollutant Concentrations (Table 3, 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1, 40 CFR 503.13) (daily maximum)
Arsenic	4 mg/kg	41 mg/kg	75 mg/kg
Cadmium	3.2 mg/kg	39 mg/kg	85 mg/kg
Chromium	25 mg/kg	No Limit	No Limit
Copper	382 mg/kg	1500 mg/kg	4300 mg/kg
Lead	15 mg/kg	300 mg/kg	840 mg/kg
Mercury	1.4 mg/kg	17 mg/kg	57 mg/kg
Molybdenum	12 mg/kg	N/A**	75 mg/kg
Nickel	28 mg/kg	420 mg/kg	420 mg/kg
Selenium	11 mg/kg	100 mg/kg	100 mg/kg
Zinc	794 mg/kg	2800 mg/kg	7500 mg/kg
Nitrogen Concentration	Not Tested	N/A	N/A

* Biosolids may not be land applied if any pollutant exceeds these values.
** EPA has temporarily removed molybdenum limits from Table 3, Table2 and Table 4.

B. Pathogen Reduction (40 CFR 503.32) -- Please indicate the level achieved

☐ Class A ☒ Class B – 40 CFR 503.32 (b) (2) Alternative 1.

C. Vector Attraction Reduction (40 CFR 503.33) -- Please indicate the option performed

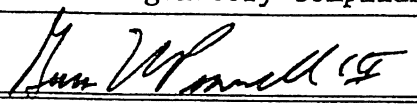
☒ Option I ☐ Option 2 ☐ Option 3 ☐ Option 4

☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8

☐ No vector attraction reduction options were performed

D. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or these persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title *(type or print)*	B. Area Code and Telephone Number
Guss Pennell, Environmental Regulatory Compliance Officer	760-966-8795 & 760-966-4874 (FAX)
C. Signature 	D. Date Signed May 6, 1999

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

LABORATORY REPORT

Sample:	sludge cake -- total solids = 16.0 %
Identification:	San Luis Rey WWTP; 12 discrete samples composited in lab
Sample ID:	AA14009
Samples received:	20-Jan-99
Analysis performed by:	City of Oceanside, Water Utilities Department Laboratory
Date reported:	26-Mar-99

Analyte	Method	**Results** (mg/kg) dry weight	Limits - 40 CFR 503 Pollutant concentrations (monthly ave)	Limits - 40 CFR 503 Ceiling concentrations (daily max)
Arsenic	6010	4	41 mg/kg	75 mg/kg
Cadmium	6010	3.25	39 mg/kg	85 mg/kg
Chromium	6010	25.4	no limit	no limit
Copper	6010	385	1500 mg/kg	4300 mg/kg
Lead	6010	15.5	300 mg/kg	840 mg/kg
Mercury	7471	1.55	17 mg/kg	57 mg/kg
Molybdenum	6010	14	N/A	75 mg/kg
Nickel	6010	29.4	420 mg/kg	420 mg/kg
Selenium	6010	10.8	100 mg/kg	100 mg/kg
Zinc	6010	816	2800 mg/kg	7500 mg/kg

Methods: EPA SW846, Test Methods for Evaluating Solid Wastes, Third edition.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

LABORATORY REPORT

Sample:	sludge cake -- total solids = 15.9 %
Identification:	San Luis Rey WWTP; 12 discrete samples composited in lab
Sample ID:	AA14560
Samples received:	03-Feb-99
Analysis performed by:	City of Oceanside, Water Utilities Department Laboratory
Date reported:	26-Mar-99

Analyte	Method	**Results** (mg/kg) dry weight	Limits - 40 CFR 503 Pollutant concentrations (monthly ave)	Limits - 40 CFR 503 Ceiling concentrations (daily max)
Arsenic	6010	4	41 mg/kg	75 mg/kg
Cadmium	6010	3.20	39 mg/kg	85 mg/kg
Chromium	6010	24.1	no limit	no limit
Copper	6010	378	1500 mg/kg	4300 mg/kg
Lead	6010	14.0	300 mg/kg	840 mg/kg
Mercury	7471	1.23	17 mg/kg	57 mg/kg
Molybdenum	6010	10	N/A	75 mg/kg
Nickel	6010	27.6	420 mg/kg	420 mg/kg
Selenium	6010	10.9	100 mg/kg	100 mg/kg
Zinc	6010	772	2800 mg/kg	7500 mg/kg

Methods: EPA SW846, Test Methods for Evaluating Solid Wastes, Third edition.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

TREATED SEWAGE SLUDGE MONITORING
Jan-Feb 1999

Type of monitoring: Bacteriological
Sampling frequency: bimonthly

Requirement for class B alternative I: Density of fecal coliform from seven samples of treated sewage sludge must not exceed 2 million per gram of sewage sludge solids.

Sample location	Sample	# fecal coliform per 100 ml	% TS	# fecal coliform per gm TS	log	date sampled	time sampled	dig #
San Luis Rey	1	300,000	15.7	19,108	4.2812	06-Jan-99	1000-1400	1
press cake	2	220,000	16.8	13,095	4.1171	13-Jan-99	0930-1330	1
	3	80,000	16.0	5,000	3.6990	20-Jan-99	0930-1330	1
	4	140,000	15.0	9,333	3.9700	27-Jan-99	1000-1400	1
	5	300,000	15.9	18,868	4.2757	03-Feb-99	0930-1330	1
	6	1,700,000	16.1	105,590	5.0236	10-Feb-99	930	1
	7	300,000	15.8	18,987	4.2785	17-Feb-99	700	1
				log mean =	4.2350			
		geometric mean =		antilog =(4.2350)	**17,179**			

meets class B alternative I standards: **Yes**

Method: Standard Methods for the Examination of Water and Wastewater, 18th edition.
fecal coliform - direct test by most porbable number (MPN), 9221 E.2.
% TS - 2540 B.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

SAN LUIS REY WASTEWATER TREATMENT PLANT - JANUARY 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1				4.40	77.7	24800	77.7		
2									
3									
4	4.46	80.9	38803	4.26	77.1	21900	79.6	65.4	51.5
5	3.71	83.2	40908	3.60	77.8	26000	81.1	68.8	48.7
6	3.74	79.5	40010	4.17	76.6	22700	78.4	65.4	47.9
7	2.81	81.0	37236	4.03	74.6	26100	77.8	67.7	40.2
8									
9									
10									
11	3.42	79.2	37140	4.77	75.7	20000	77.7	67.8	39.6
12	3.85	80.9	38981	5.13	78.7	22000	80.0	70.8	39.2
13	3.94	80.9	41238	3.91	80.2	22000	80.7	67.9	49.3
14	3.48	78.4	36108	3.78	79.0	9400	78.5	80.8	-15.0
15									
16									
17									
18	4.34	78.2	36648	4.80	77.8	25700	78.0	68.4	39.0
19	4.43	79.1	39929	5.22	80.0	21500	79.4	72.4	32.1
20	3.27	79.9	38689	4.77	78.4	25500	79.2	68.3	43.3
21	3.52	78.7	38952	5.10	77.6	25100	78.2	69.2	37.3
22									
23									
24									
25	3.49	80.5	39345	5.16	79.2	23900	79.9	68.3	45.7
26	2.29	79.2	38601	5.06	78.5	28500	78.8		
27	3.51	79.4	39430	5.19	76.0	26600	77.7	67.8	39.6
28	4.14	79.4	38640	4.34	78.5	27800	79.0	67.4	45.1
29									
30									
31									
AVG	3.65	79.9	38791	4.57	77.8	23500	78.9	69.1	40.3

SAN LUIS REY WASTEWATER TREATMENT PLANT - FEBRUARY 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1	3.89	80.0	39272	4.83	77.4	29600	78.7	69.5	38.5
2	3.66	78.1	39095	4.65	77.7	24200	77.9	65.6	46.0
3	3.56	80.2	39176	5.05	76.9	28000	78.5	67.7	42.7
4	3.99	80.0	39162	4.64	76.3	27700	78.3	63.5	51.9
5									
6									
7									
8	4.37	80.2	39464	4.92	72.2	23900	77.0	66.7	40.0
9	4.41	79.0	38882	4.51	75.4	31600	77.4	66.7	41.4
10	4.56	82.2	38933	3.65	75.0	24400	79.8	70.2	40.3
11	4.29	80.5	39094	4.21	76.4	27800	78.8	66.6	46.4
12									
13									
14									
15	5.16	79.9	37892	4.60	76.4	28200	78.5	68.8	39.6
16	4.11	81.6	39432	4.71	78.4	28000	80.2	67.2	49.3
17	3.26	79.3	39261	5.09	79.2	24800	79.3	68.2	43.8
18	3.72	81.2	39737	5.41	77.9	27300	79.6	68.1	45.1
19									
20									
21									
22	4.32	81.2	36272	5.43	75.1	23000	78.5	69.1	38.7
23	4.08	80.1	38998	4.86	76.6	25700	78.6	68.5	40.7
24	4.44	81.6	38992	4.92	75.8	25900	79.1	69.4	40.2
25	4.11	79.9	38072	4.35	75.0	23400	78.0		
26									
27									
28									
AVG	4.12	80.3	38858	4.74	76.4	26469	78.6	67.7	43.0

AVERAGE % VOLATILE SOLIDS REDUCTION FOR JANUARY AND FEBRUARY = 42

NOTICE AND NECESSARY INFORMATION (NANI)

This form is to assist compliance with the bulk sewage sludge (biosolids) notification requirements [503.12(f)]. Please note, however, that if the biosolids meet the exceptional quality criteria, then the notification requirements do not apply. This form can be used by preparers of biosolids to transmit information to land appliers and also by land appliers to transmit information to land owners or lease holders.

Facility and Biosolids Type: San Luis Rey WWTP Dewatered Digested Sludge
Monitoring Period: From 03/01/99 To 04/30/99

To be Completed by PREPARERS of Biosolids

A. Please provide pollutant concentrations

Name	Concentration (mg/kg) Dry Weight	Pollutant Concentrations (Table 3, 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1, 40 CFR 503.13) (daily maximum)
Arsenic	4 mg/kg	41 mg/kg	75 mg/kg
Cadmium	3.9 mg/kg	39 mg/kg	85 mg/kg
Chromium	26 mg/kg	No Limit	No Limit
Copper	306 mg/kg	1500 mg/kg	4300 mg/kg
Lead	12 mg/kg	300 mg/kg	840 mg/kg
Mercury	1.3 mg/kg	17 mg/kg	57 mg/kg
Molybdenum	10 mg/kg	N/A**	75 mg/kg
Nickel	35 mg/kg	420 mg/kg	420 mg/kg
Selenium	9.5 mg/kg	100 mg/kg	100 mg/kg
Zinc	712 mg/kg	2800 mg/kg	7500 mg/kg
Nitrogen Concentration	Not Tested	N/A	N/A

* Biosolids may not be land applied if any pollutant exceeds these values.
** EPA has temporarily removed molybdenum limits from Table 3, Table2 and Table 4.

B. Pathogen Reduction (40 CFR 503.32) -- Please indicate the level achieved

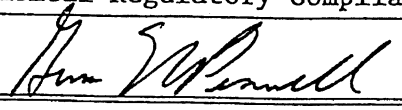
☐ Class A ☒ Class B – 40 CFR 503.32 (b) (2) Alternative 1.

C. Vector Attraction Reduction (40 CFR 503.33) -- Please indicate the option performed

☒ Option I ☐ Option 2 ☐ Option 3 ☐ Option 4
☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8
☐ No vector attraction reduction options were performed

D. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or these persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title *(type or print)* Guss Pennell, Environmental Regulatory Compliance Officer	B. Area Code and Telephone Number 760-966-8795 & 760-966-4874 (FAX)
C. Signature 	D. Date Signed May 10, 1999

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

LABORATORY REPORT

Sample:	sludge cake -- total solids = 16.5 %
Identification:	San Luis Rey WWTP; 12 discrete samples composited in lab
Sample ID:	AA16349
Samples received:	22-Mar-99
Analysis performed by:	City of Oceanside, Water Utilities Department Laboratory
Date reported:	10-May-99

Analyte	Method	**Results** (mg/kg) dry weight	Limits - 40 CFR 503 Pollutant concentrations (monthly ave)	Limits - 40 CFR 503 Ceiling concentrations (daily max)
Arsenic	6010	4	41 mg/kg	75 mg/kg
Cadmium	6010	3.53	39 mg/kg	85 mg/kg
Chromium	6010	25.4	no limit	no limit
Copper	6010	299	1500 mg/kg	4300 mg/kg
Lead	6010	14	300 mg/kg	840 mg/kg
Mercury	7471	1.2	17 mg/kg	57 mg/kg
Molybdenum	6010	10	N/A	75 mg/kg
Nickel	6010	30.8	420 mg/kg	420 mg/kg
Selenium	6010	9.21	100 mg/kg	100 mg/kg
Zinc	6010	694	2800 mg/kg	7500 mg/kg

Methods: EPA SW846, Test Methods for Evaluating Solid Wastes, Third edition.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

LABORATORY REPORT

Sample:	sludge cake -- total solids = 14.6 %
Identification:	San Luis Rey WWTP; 12 discrete samples composited in lab
Sample ID:	AA16928
Samples received:	05-Apr-99
Analysis performed by:	City of Oceanside, Water Utilities Department Laboratory
Date reported:	10-May-99

Analyte	Method	**Results** (mg/kg) dry weight	Limits - 40 CFR 503 Pollutant concentrations (monthly ave)	Limits - 40 CFR 503 Ceiling concentrations (daily max)
Arsenic	6010	4	41 mg/kg	75 mg/kg
Cadmium	6010	4.27	39 mg/kg	85 mg/kg
Chromium	6010	27.1	no limit	no limit
Copper	6010	312	1500 mg/kg	4300 mg/kg
Lead	6010	10	300 mg/kg	840 mg/kg
Mercury	7471	1.3	17 mg/kg	57 mg/kg
Molybdenum	6010	10	N/A	75 mg/kg
Nickel	6010	39.2	420 mg/kg	420 mg/kg
Selenium	6010	9.76	100 mg/kg	100 mg/kg
Zinc	6010	729	2800 mg/kg	7500 mg/kg

Methods: EPA SW846, Test Methods for Evaluating Solid Wastes, Third edition.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales

Mary Gonzales
Laboratory Supervisor

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CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

TREATED SEWAGE SLUDGE MONITORING
March-April 1999

Type of monitoring: Bacteriological
Sampling frequency: bimonthly

Requirement for class B alternative I: Density of fecal coliform from seven samples of treated sewage sludge must not exceed 2 million per gram of sewage sludge solids.

Sample location	Sample	# fecal coliform per 100 ml	% TS	# fecal coliform per gm TS	log	date sampled	time sampled	dig #
San Luis Rey	1	300,000	15.9	18,868	4.2757	03-Mar-99	7:00	1
press cake	2	2,400,000	17.2	139,535	5.1447	10-Mar-99	10:30	1
	3	170,000	15.2	11,184	4.0486	17-Mar-99	13:15	1
	4	2,800,000	15.1	185,430	5.2682	24-Mar-99	9:30	1
	5	1,100,000	17.4	63,218	4.8008	31-Mar-99	8:40	1
	6	300,000	14.3	20,979	4.3218	06-Apr-99	8:40	1
	7	500,000	14.3	34,965	4.5436	14-Apr-99	9:20	1

log mean = 4.6291

geometric mean = antilog =(4.6291) **42,570**

meets class B alternative I standards: **Yes**

Method: Standard Methods for the Examination of Water and Wastewater, 18th edition.
fecal coliform - direct test by most porbable number (MPN), 9221 E.2.
% TS - 2540 B.

WATER UTILITIES DEPARTMENT LABORATORY, by:

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SAN LUIS REY WASTEWATER TREATMENT PLANT - MARCH 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1	5.10	80.6	36650	4.66	74.9	23100	78.5	69.5	37.7
2	3.38	82.0	39658	4.48	74.9	25800	78.7	68.6	40.9
3	4.64	80.2	39008	4.19	75.6	28700	78.4	65.1	48.5
4	5.73	81.1	38973	4.67	75.3	26100	79.1	67.4	45.2
5									
6									
7									
8	4.89	80.7	38135	3.77	71.3	24700	77.6	67.0	41.3
9	5.28	79.9	34051	4.07	72.4	28200	77.0		
10	2.71	80.6	29234	3.60	74.3	25200	77.2	65.9	43.0
11	2.68	80.9	28146	4.25	72.3	25500	75.8		
12									
13									
14									
15	3.71	81.2	37593	3.93	69.7	24700	76.5		
16	4.74	80.9	39696	3.64	74.2	27300	78.6	68.0	42.1
17	4.17	81.4	38954	4.39	74.2	27700	78.3	67.2	43.3
18	4.50	81.1	38572	4.08	71.1	26300	77.3	67.5	38.9
19									
20									
21									
22	4.83	82.1	37787	4.11	73.9	21800	79.4	67.1	47.1
23	5.55	80.1	32539	4.22	73.0	26200	77.4	70.5	30.2
24	5.02	80.1	36830	2.52	74.1	28000	78.4	65.3	48.3
25	4.92	81.0	39437	4.28	73.0	27500	78.0	69.0	37.1
26									
27									
28									
29	5.23	81.0	39072	4.52	70.9	24700	77.4	67.0	40.8
30	5.04	80.1	36882	4.78	71.1	26400	76.5	67.4	36.4
31									
AVG	4.56	80.8	36734	4.12	73.1	25994	77.8	67.5	40.7

SAN LUIS REY WASTEWATER TREATMENT PLANT - APRIL 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1	5.03	80.0	39150	4.53	71.1	24200	76.8	67.2	38.2
2									
3									
4									
5	4.24	79.8	40469	3.59	73.1	25100	77.5	67.2	40.5
6	4.42	78.9	38586	3.92	72.1	29500	76.2	64.6	42.9
7	4.80	80.9	24425	3.92	72.1	26000	76.8	67.2	38.1
8	5.07	81.5	34977	3.59	76.1	28000	79.5	69.1	42.5
9									
10									
11									
12	4.56	80.0	21662	3.85	74.5	28000	77.1	66.7	40.6
13	4.13	80.3	9898	3.80	76.3	26200	77.5	68.3	37.3
14	4.32	80.0	8268	3.79	76.8	27800	77.6	67.7	39.5
15	4.30	79.8	5128	3.51	75.8	26900	76.6	67.1	37.5
16									
17									
18									
19	4.65	78.9	39073	4.04	76.0	26700	77.8	67.5	40.8
20	4.36	79.8	38914	4.01	76.4	27700	78.5	69.4	37.7
21	5.24	79.1	47769	3.75	78.3	25700	78.9	67.4	44.6
22	5.17	80.8	29861	4.11	74.5	28000	78.1	66.2	45.1
23									
24									
25									
26	4.99	79.5	30116	4.06	74.8	27400	77.5	68.9	35.7
27	5.65	79.4	30076	4.00	74.4	25400	77.5	67.6	39.5
28	4.72	82.2	48850	4.86	72.3	24600	78.8	67.2	44.9
29	5.31	78.9	36460	4.58	71.8	26000	76.2	66.3	38.5
30									
AVG	4.76	80.0	30805	3.99	74.5	26659	77.6	67.4	40.3

AVERAGE % VOLATILE SOLIDS REDUCTION FOR MARCH AND APRIL = 41

NOTICE AND NECESSARY INFORMATION (NANI)

This form is to assist compliance with the bulk sewage sludge (biosolids) notification requirements [503.12(f)]. Please note, however, that if the biosolids meet the exceptional quality criteria, then the notification requirements do not apply. This form can be used by preparers of biosolids to transmit information to land appliers and also by land appliers to transmit information to land owners or lease holders.

Facility and Biosolids Type: San Luis Rey WWTP Dewatered Digested Sludge
Monitoring Period: From 05 / 01 / 99 To 06 / 30 / 99

To be Completed by PREPARERS of Biosolids

A. Please provide pollutant concentrations

Name	Concentration (mg/kg) Dry Weight	Pollutant Concentrations (Table 3, 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1, 40 CFR 503.13) (daily maximum)
Arsenic	5.8 mg/kg	41 mg/kg	75 mg/kg
Cadmium	6.0 mg/kg	39 mg/kg	85 mg/kg
Chromium	56 mg/kg	No Limit	No Limit
Copper	297 mg/kg	1500 mg/kg	4300 mg/kg
Lead	20 mg/kg	300 mg/kg	840 mg/kg
Mercury	2.4 mg/kg	17 mg/kg	57 mg/kg
Molybdenum	15 mg/kg	N/A**	75 mg/kg
Nickel	55 mg/kg	420 mg/kg	420 mg/kg
Selenium	11 mg/kg	100 mg/kg	100 mg/kg
Zinc	744 mg/kg	2800 mg/kg	7500 mg/kg
Nitrogen Concentration	Not Tested	N/A	N/A

* Biosolids may not be land applied if any pollutant exceeds these values.
** EPA has temporarily removed molybdenum limits from Table 3, Table2 and Table 4.

B. Pathogen Reduction (40 CFR 503.32) -- Please indicate the level achieved

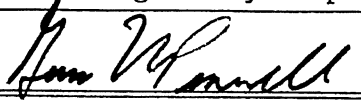
☐ Class A ☒ Class B – 40 CFR 503.32 (b) (2) Alternative 1.

C. Vector Attraction Reduction (40 CFR 503.33) -- Please indicate the option performed Option 1 requirement of at least 38% reduction was not achieved. The two month average May 36.4% - June 37.3% was 37%.

☒ Option I ☐ Option 2 ☐ Option 3 ☐ Option 4
☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8
☐ No vector attraction reduction options were performed

D. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or these persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title *(type or print)* Guss Pennell, Environmental Regulatory Compliance Officer	B. Area Code and Telephone Number 760-966-8795 & 760-966-4874 (FAX)
C. Signature 	D. Date Signed January 14, 2000

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

LABORATORY REPORT

Sample:	sludge cake -- total solids = 15.7 %
Identification:	San Luis Rey WWTP; sample taken from the belt press
Sample ID:	Associated Labs # LR37557
Samples received:	17-May-99
Analysis performed by:	Associated Laboratories; Orange, CA
Date reported:	18-Aug-99

Analyte	Method	**Results** (mg/kg) dry weight	Limits - 40 CFR 503 Pollutant concentrations (monthly ave)	Limits - 40 CFR 503 Ceiling concentrations (daily max)
Arsenic	7060	ND	41 mg/kg	75 mg/kg
Cadmium	6010	4.8	39 mg/kg	85 mg/kg
Chromium	6010	38.3	no limit	no limit
Copper	6010	273	1500 mg/kg	4300 mg/kg
Lead	7420	ND	300 mg/kg	840 mg/kg
Mercury	245.5	2.4	17 mg/kg	57 mg/kg
Molybdenum	6010	11.1	N/A	75 mg/kg
Nickel	6010	46.9	420 mg/kg	420 mg/kg
Selenium	7740	ND	100 mg/kg	100 mg/kg
Zinc	6010	707	2800 mg/kg	7500 mg/kg

Methods: EPA SW846, Test Methods for Evaluating Solid Wastes, Third edition.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales

Mary Gonzales
Laboratory Supervisor

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CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

LABORATORY REPORT

Sample:	sludge cake -- total solids = 15.1 %
Identification:	San Luis Rey WWTP; sample taken from the belt press
Sample ID:	Associated Labs # LR39047
Date sampled:	10-Jun-99
Analysis performed by:	Associated Laboratories; Orange, CA
Date reported:	20-Aug-99

Analyte	Method	**Results** (mg/kg) dry weight	Limits - 40 CFR 503 Pollutant concentrations (monthly ave)	Limits - 40 CFR 503 Ceiling concentrations (daily max)
Arsenic	7060	5.8	41 mg/kg	75 mg/kg
Cadmium	6010	7.1	39 mg/kg	85 mg/kg
Chromium	6010	73.5	no limit	no limit
Copper	6010	321	1500 mg/kg	4300 mg/kg
Lead	7420	20	300 mg/kg	840 mg/kg
Mercury	245.5	LA	17 mg/kg	57 mg/kg
Molybdenum	6010	19.7	N/A	75 mg/kg
Nickel	6010	64.0	420 mg/kg	420 mg/kg
Selenium	7740	11	100 mg/kg	100 mg/kg
Zinc	6010	781	2800 mg/kg	7500 mg/kg

LA = lab accident, no data for this parameter

Methods: EPA SW846, Test Methods for Evaluating Solid Wastes, Third edition.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

Order #: 123299
Matrix: SOLID
Date Sampled:
Time Sampled:
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Sludge - Comp

Analyte	Result	DF	DLR	Units	Date/Analyst	
245.5 Mercury in Solids by Manual Cold Vapor						
Mercury	0.38	1	0.12	mg/Kg	6/ 1/99	MD
335.2 Total Cyanide						
Cyanide	ND	1	0.5	mg/Kg	5/24/99	JA
6010B ICP Metals - Solid/Liquid						
Antimony	2.41	1	1.44	mg/Kg	5/27/99	MT
Beryllium	ND	1	0.10	mg/Kg	5/27/99	MT
Cadmium	0.757	1	0.20	mg/Kg	5/27/99	MT
Chromium	6.01	1	0.59	mg/Kg	5/27/99	MT
Copper	42.8	1	0.22	mg/Kg	5/27/99	MT
Molybdenum	1.75	1	0.65	mg/Kg	5/27/99	MT
Nickel	7.37	1	0.68	mg/Kg	5/27/99	MT
Silver	3.56	1	0.50	mg/Kg	5/27/99	MT
Zinc	111	1	0.34	mg/Kg	5/27/99	MT
7060A Arsenic by Graphite Furnace						
Arsenic	ND	10	10.0	mg/Kg	5/27/99	MT
7420 Lead AA, Direct Aspiration						
Lead	ND	1	10	mg/Kg	5/27/99	MT
7740 Selenium by Graphite Furnace						
Selenium	ND	1	1.0	mg/Kg	5/27/99	MT
7841 Thallium by Graphite Furnace						
Thallium	ND	10	10.0	mg/Kg	5/27/99	ND
8081A - Organochlorine Pesticides by GC						

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 128955
Matrix: SOLID
Date Sampled: 6/10/99
Time Sampled: 13:40
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Belt Press Cake

Analyte		Result	DF	DLR	Units	Date/Analyst	
6010B ICP Metals - Solid/Liquid							
Arsenic	5.8	0.878	1	0.20	mg/Kg	6/29/99	MD
Cadmium	7.1	1.07	1	0.20	mg/Kg	6/30/99	MT
Chromium	73.5	11.1	1	0.59	mg/Kg	6/29/99	MT
Copper	321	48.5	1	0.22	mg/Kg	6/29/99	MT
Lead	20.3	3.07	1	0.25	mg/Kg	6/29/09	MD
Molybdenum	19.7	2.97	1	0.65	mg/Kg	6/29/99	MT
Nickel	64.0	9.67	1	0.68	mg/Kg	6/29/99	MT
Selenium	11.0	1.66	1	0.37	mg/Kg	6/29/99	MD
Zinc	781	118	1	0.34	mg/Kg	6/29/99	MT

15.1 % TS

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

TREATED SEWAGE SLUDGE MONITORING

May - June 1999

Type of monitoring: Bacteriological
Sampling frequency: bimonthly

Requirement for class B alternative I: Density of fecal coliform from seven samples of treated sewage sludge must not exceed 2 million per gram of sewage sludge solids.

Sample location	Sample	# fecal coliform per 100 ml	% TS	# fecal coliform per gm TS	log	date sampled	time sampled	dig #
San Luis Rey	1	30,000	14.5	2,069	3.3158	05-May-99	10:45	1
press cake	2	1,600,000	18.2	87,912	4.9440	12-May-99	9:30	1
	3	13,000	16.1	807	2.9071	19-May-99	10:30	1
	4	5,000	15.3	327	2.5143	02-Jun-99	12:00	1
	5	8,000	15.1	530	2.7241	10-Jun-99	13:40	1
	6	50,000	15.4	3,247	3.5114	17-Jun-99	9:45	1
	7	300,000	15.3	19,608	4.2924	23-Jun-99	8:45	1

log mean = 3.4585

geometric mean = antilog =(3.4585) **2,874**

meets class B alternative I standards: **Yes**

Method: Standard Methods for the Examination of Water and Wastewater, 18th edition.
fecal coliform - direct test by most porbable number (MPN), 9221 E.2.
% TS - 2540 B.

WATER UTILITIES DEPARTMENT LABORATORY, by:

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SAN LUIS REY WASTEWATER TREATMENT PLANT - MAY 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1									
2									
3	4.70	79.5	40818	3.74	74.2	26600	77.7	68.6	37.3
4	4.33	79.0	38586	3.50	73.3	27600	76.9	69.9	30.3
5	3.57	78.7	40000	2.76	73.2	27000	76.8	67.4	37.6
6	3.22	78.9	38045	4.40	70.7	27000	74.9	65.8	35.4
7									
8									
9									
10	2.02	78.2	37082	4.72	74.6	29800	75.9	69.7	26.8
11	3.34	81.4	43487	4.00	73.7	26700	78.1	68.9	38.0
12	3.41	82.3	40706	5.87	73.4	32400	77.2	68.3	36.2
13				4.54	73.1	33000	73.1	67.0	25.3
14									
15									
16									
17	4.49	79.0	35043	4.05	72.9	32700	76.2	67.1	36.3
18	4.09	81.1	41510	4.24	76.2	26800	79.1	66.2	48.4
19	3.92	80.0	41104	5.18	73.9	28700	77.1	67.0	39.6
20	2.94	80.0	35442	3.32	72.4	33000	76.1	66.3	38.2
21									
22									
23									
24	4.08	78.9	39706	4.23	72.4	30800	76.0	67.4	34.7
25	3.79	80.1	40066	4.48	72.3	32900	76.3	67.7	34.7
26	4.08	77.3	38325	5.04	74.0	32900	75.6	67.0	34.5
27	4.42	80.7	48048	4.14	74.5	33100	78.3	65.9	46.3
28									
29									
30									
31									
AVG	3.76	79.7	39865	4.26	73.4	30063	76.6	67.5	36.4

SAN LUIS REY WASTEWATER TREATMENT PLANT - JUNE 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1	5.58	82.2	16581	3.92	73.6	33000	77.2	66.7	40.8
2	4.64	80.3	9095	5.39	73.2	34200	74.5	66.1	33.5
3	5.40	80.5	19516	5.55	74.3	32700	76.6	68.9	32.3
4									
5									
6									
7	6.07	80.9	39401	4.71	74.9	33700	78.5	65.9	47.0
8	5.34	80.1	34381	5.12	74.9	32500	77.6	67.8	39.3
9	4.61	80.9	33432	4.77	75.9	33000	78.3	65.9	46.6
10	1.98	79.4	41274	6.21	74.3	33100	75.7	67.1	34.7
11									
12									
13									
14	5.15	79.7	24957	5.13	72.3	33000	75.5	70.7	21.8
15	5.56	80.2	8113	4.77	75.2	33000	76.3	66.4	38.7
16	5.00	80.7	20831	5.59	72.9	33000	75.7	70.5	23.4
17	4.47	79.6	24298	4.07	74.3	33000	76.7	66.7	39.0
18									
19									
20									
21				4.00	73.7	33000	73.7	68.2	23.5
22									
23	5.00	78.7	22727	4.71	72.6	33000	75.2	65.3	37.9
24	4.44	79.2	13555	5.45	72.6	32400	74.3	66.2	32.2
25									
26									
27									
28									
29	5.29	79.1	28010				79.1	65.6	49.6
30	4.70	79.9	29100	4.11	74.7	30100	77.4	64.2	47.7
AVG	4.88	80.1	24351	4.90	74.0	32847	76.4	67.0	37.3

AVERAGE % VOLATILE SOLIDS REDUCTION FOR MAY AND JUNE = 37

NOTICE AND NECESSARY INFORMATION (NANI)

This form is to assist compliance with the bulk sewage sludge (biosolids) notification requirements [503.12(f)]. Please note, however, that if the biosolids meet the exceptional quality criteria, then the notification requirements do not apply. This form can be used by preparers of biosolids to transmit information to land appliers and also by land appliers to transmit information to land owners or lease holders.

Facility and Biosolids Type: San Luis Rey WWTP Dewatered Digested Sludge
Monitoring Period: From 07 / 01 / 99 To 08 / 31 / 99

To be Completed by PREPARERS of Biosolids

A. Please provide pollutant concentrations

Name	Concentration (mg/kg) Dry Weight	Pollutant Concentrations (Table 3, 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1, 40 CFR 503.13) (daily maximum)
Arsenic	6.1 mg/kg	41 mg/kg	75 mg/kg
Cadmium	2.3 mg/kg	39 mg/kg	85 mg/kg
Chromium	53 mg/kg	No Limit	No Limit
Copper	257 mg/kg	1500 mg/kg	4300 mg/kg
Lead	19 mg/kg	300 mg/kg	840 mg/kg
Mercury	1.6 mg/kg	17 mg/kg	57 mg/kg
Molybdenum	15 mg/kg	N/A**	75 mg/kg
Nickel	42 mg/kg	420 mg/kg	420 mg/kg
Selenium	8.2 mg/kg	100 mg/kg	100 mg/kg
Zinc	637 mg/kg	2800 mg/kg	7500 mg/kg
Nitrogen Concentration	Not Tested	N/A	N/A

* Biosolids may not be land applied if any pollutant exceeds these values.
** EPA has temporarily removed molybdenum limits from Table 3, Table2 and Table 4.

B. Pathogen Reduction (40 CFR 503.32) -- Please indicate the level achieved

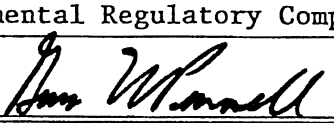
☐ Class A ☒ Class B – 40 CFR 503.32 (b) (2) Alternative 1.

C. Vector Attraction Reduction (40 CFR 503.33) -- Please indicate the option performed

☒ Option I ☐ Option 2 ☐ Option 3 ☐ Option 4
☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8
☐ No vector attraction reduction options were performed

D. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or these persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title *(type or print)*	B. Area Code and Telephone Number
Guss Pennell, Environmental Regulatory Compliance Officer	760-966-8795 & 760-966-4874 (FAX)
C. Signature 	D. Date Signed January 14, 2000

Order #: 138099
Matrix: SOLID
Date Sampled: 7/28/99
Time Sampled: 10:40
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Belt Press Cake

Analyte	Result	DF	DLR	Units	Date/Analyst
245.5 Mercury in Solids by Manual Cold Vapor					
Mercury	1.6	1	0.12	mg/Kg	8/24/99 MJ
6010B ICP Metals - Solid/Liquid					
Arsenic	6.05	1	0.20	mg/Kg	8/20/99 MT
Cadmium	2.21	1	0.20	mg/Kg	8/20/99 MT
Chromium	62.9	1	0.59	mg/Kg	8/20/99 MT
Copper	253.0	1	0.22	mg/Kg	8/20/99 MT
Lead	18.10	1	0.25	mg/Kg	8/20/99 MT
Molybdenum	16.83	1	0.65	mg/Kg	8/20/99 MT
Nickel	47.64	1	0.68	mg/Kg	8/20/99 MT
Selenium	8.25	1	0.37	mg/Kg	8/20/99 MT
Zinc	619.0	1	0.34	mg/Kg	8/20/99 MT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 138100
Matrix: SOLID
Date Sampled: 8/16/99
Time Sampled: 09:40
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Belt Press Cake

Analyte	Result	DF	DLR	Units	Date/Analyst	
245.5 Mercury in Solids by Manual Cold Vapor						
Mercury	1.64	1	0.12	mg/Kg	8/24/99	MJ
6010B ICP Metals - Solid/Liquid						
Arsenic	6.23	1	0.20	mg/Kg	8/20/99	MT
Cadmium	2.33	1	0.20	mg/Kg	8/20/99	MT
Chromium	43.6	1	0.59	mg/Kg	8/20/99	MT
Copper	260.0	1	0.22	mg/Kg	8/20/99	MT
Lead	19.7	1	0.25	mg/Kg	8/20/99	MT
Molybdenum	13.4	1	0.65	mg/Kg	8/20/99	MT
Nickel	35.5	1	0.68	mg/Kg	8/20/99	MT
Selenium	8.11	1	0.37	mg/Kg	8/20/99	MT
Zinc	654.0	1	0.34	mg/Kg	8/20/99	MT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

4/1/99

City of Oceanside Water Utilities Department Laboratory
San Luis Rey Wastewater Treatment Plant
3950 North River Road
Oceanside, California 92054

phone: 760-966-8772
fax: 760-966-8770

To: **Associated Laboratories**

P.O. # 20005

Date: August 18, 1999

Sample Description	Date/Time Sampled	Analyze for:
Sludge samples		Analyze all four samples for metals for "503" sludge regs:
SLR Belt Press Cake	28-Jul-99 @ 1040	As, Cd, Cr, Cu, Pb, Mo, Ni, Se, Zn
SLR Belt Press Cake	16-Aug-99 @ 0940	As, Cd, Cr, Cu, Pb, Mo, Ni, Se, Zn
LS Belt Press Cake	27-Jul-99 @ 0400	As, Cd, Cr, Cu, Pb, Mo, Ni, Se, Zn
LS Belt Press Cake	16-Aug-99 @ 0400	As, Cd, Cr, Cu, Pb, Mo, Ni, Se, Zn
		These answers need to be reported as **mg/kg dry weight**.

Relinquished by:		Relinquished by:	
Mary Gonzales	8/19/99		
(Signature)	(Time)	(Signature)	(Time)
MARY GONZALES	1255		
(Printed name)	(Date)	(Printed name)	(Date)
Received by:		**Received by Associated Laboratory**	
Richard Green	1255		14:45
(Signature)	(Time)	(Signature)	(Time)
RICHARD GREEN	8/19/99	JOHN DEMPSEY	8-19-99
(Printed name)	(Date)	(Printed name)	(Date)

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT City of Oceanside (3869)
ATTN: Mary Gonzales
Water Utilities Department Lab
3950 North River Road
Oceanside, CA 92054

LAB REQUEST 41399
REPORTED 9/10/99
RECEIVED 8/19/99

PROJECT Sludge Samples

SUBMITTER Client

COMMENTS Results expressed on "Dry Weight Basis"

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
138099	SLR Belt Press Cake
138100	SLR Belt Press Cake
138101	LS Belt Press Cake
138102	LS Belt Press Cake

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Robert A. Webber
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

TESTING & CONSULTING
Chemical
Microbiological
Environmental

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

TREATED SEWAGE SLUDGE MONITORING

July - August 1999

Type of monitoring: Bacteriological
Sampling frequency: bimonthly

Requirement for class B alternative I: Density of fecal coliform from seven samples of treated sewage sludge must not exceed 2 million per gram of sewage sludge solids.

Sample location	Sample	# fecal coliform per 100 ml	% TS	# fecal coliform per gm TS	log	date sampled	time sampled	dig #
San Luis Rey press cake	1	50,000	14.1	3,546	3.5498	08-Jul-99	8:30	1
	2	50,000	15.6	3,205	3.5058	14-Jul-99	8:05	1
	3	24,000	15.1	1,589	3.2012	21-Jul-99	7:50	1
	4	24,000	14.7	1,633	3.2129	28-Jul-99	10:40	1
	5	80,000	14.9	5,369	3.7299	04-Aug-99	9:45	1
	6	24,000	15.2	1,579	3.1984	12-Aug-99	9:35	1
	7	1,700,000	15.1	112,583	5.0515	19-Aug-99	10:40	1

log mean = 3.6356

geometric mean = antilog =(3.6356) **4,321**

meets class B alternative I standards: **Yes**

Method: Standard Methods for the Examination of Water and Wastewater, 18th edition.
fecal coliform - direct test by most porbable number (MPN), 9221 E.2.
% TS - 2540 B.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

SAN LUIS REY WASTEWATER TREATMENT PLANT - JULY 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1	4.16	80.9	12578	4.11	72.9	28100	75.4	64.5	40.7
2									
3									
4									
5									
6	3.35	77.4	39487	4.55	74.8	30800	76.1	65.4	40.5
7	4.66	78.6	25379	4.16	75.4	35100	76.8	62.9	48.9
8	4.09	80.6	27071	3.99	74.7	33100	77.4	64.5	46.9
9									
10									
11									
12	5.20	79.5	33293	3.60	75.9	31700	78.1	64.9	48.1
13	5.49	79.4	27726	4.52	75.1	32100	77.3	65.0	45.5
14	4.41	79.5	35089	4.58	74.9	27500	77.4	65.3	45.2
15	6.35	81.0	36215				81.0	66.3	53.9
16									
17									
18									
19	5.77	80.7	23942	3.80	74.1	34300	77.5	64.7	46.8
20	5.59	82.1	26122	4.47	74.9	36300	78.3	67.2	43.3
21	5.23	80.1	39398	2.99	73.4	34600	77.9	66.7	43.0
22	3.11	80.7	36601				80.7	68.5	48.0
23	3.28	77.8	8842				77.8		
24									
25									
26	3.49	76.5	40532	4.28	73.0	29800	74.8	69.5	23.4
27	2.79	77.0	39998	4.35	74.7	35400	75.7	66.9	35.0
28	3.65	79.0	36933	4.10	73.6	40200	76.0	64.2	43.5
29	3.62	78.6	27825	3.90	72.7	35600	75.2	65.8	36.5
30									
31									
AVG	4.37	79.4	30414	4.10	74.3	33186	77.3	65.8	43.4

SAN LUIS REY WASTEWATER TREATMENT PLANT - AUGUST 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1									
2								66.0	
3	2.40	76.6	38775	3.86	74.6	28600	75.5	66.6	35.3
4				3.80	73.9	30800	73.9	67.5	26.6
5	2.95	77.8	38401	4.37	73.8	34800	75.5	66.7	35.0
6									
7									
8									
9	3.82	75.4	38372				75.4	65.2	38.9
10				3.95	77.1	38100	77.1	65.7	43.1
11	4.37	79.3	10521				79.3	69.4	40.8
12	3.67	78.2	37610				78.2	65.2	47.8
13									
14									
15									
16	4.37	77.5	29502	6.50	73.6	32300	75.1	65.6	36.7
17	4.42	77.7	29174	5.83	74.5	28600	75.9	67.0	35.5
18	3.77	77.3	27062				77.3	67.1	40.1
19	3.93	78.6	35287	6.10	74.1	24900	76.2	64.7	42.9
20									
21									
22									
23	4.70	78.5	37057	6.33	73.4	25400	76.1	64.2	43.5
24	3.90	79.1	30673	5.73	73.9	24400	76.3	66.9	37.2
25				4.51	74.6	24600	74.6	66.0	33.9
26	3.22	77.2	18890				77.2	65.8	43.2
27									
28									
29									
30	4.26	80.9	20673	3.32	75.6	34100	77.9	64.0	49.6
31	5.01	79.8	29701	4.26	76.4	34400	78.1	65.4	47.0
AVG	3.91	78.1	30121	4.88	74.6	30083	76.4	66.1	40.1

AVERAGE % VOLATILE SOLIDS REDUCTION FOR JULY AND AUGUST = 42

NOTICE AND NECESSARY INFORMATION (NANI)

This form is to assist compliance with the bulk sewage sludge (biosolids) notification requirements [503.12(f)]. Please note, however, that if the biosolids meet the exceptional quality criteria, then the notification requirements do not apply. This form can be used by preparers of biosolids to transmit information to land appliers and also by land appliers to transmit information to land owners or lease holders.

Facility and Biosolids Type: San Luis Rey WWTP Dewatered Digested Sludge
Monitoring Period: From 09/01/99 To 10/31/99

To be Completed by PREPARERS of Biosolids

A. Please provide pollutant concentrations

Name	Concentration (mg/kg) Dry Weight	Pollutant Concentrations (Table 3, 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1, 40 CFR 503.13) (daily maximum)
Arsenic	5.7 mg/kg	41 mg/kg	75 mg/kg
Cadmium	2.0 mg/kg	39 mg/kg	85 mg/kg
Chromium	33 mg/kg	No Limit	No Limit
Copper	294 mg/kg	1500 mg/kg	4300 mg/kg
Lead	19 mg/kg	300 mg/kg	840 mg/kg
Mercury	0.8 mg/kg	17 mg/kg	57 mg/kg
Molybdenum	11 mg/kg	N/A**	75 mg/kg
Nickel	32 mg/kg	420 mg/kg	420 mg/kg
Selenium	10 mg/kg	100 mg/kg	100 mg/kg
Zinc	734 mg/kg	2800 mg/kg	7500 mg/kg
Nitrogen Concentration	Not Tested	N/A	N/A

* Biosolids may not be land applied if any pollutant exceeds these values.
** EPA has temporarily removed molybdenum limits from Table 3, Table2 and Table 4.

B. Pathogen Reduction (40 CFR 503.32) -- Please indicate the level achieved

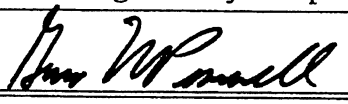
☐ Class A ☒ Class B – 40 CFR 503.32 (b) (2) Alternative 1.

C. Vector Attraction Reduction (40 CFR 503.33) -- Please indicate the option performed

☒ Option I ☐ Option 2 ☐ Option 3 ☐ Option 4
☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8
☐ No vector attraction reduction options were performed

D. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or these persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title *(type or print)*	B. Area Code and Telephone Number
Guss Pennell, Environmental Regulatory Compliance Officer	760-966-8795 & 760-966-4874 (FAX)
C. Signature 	D. Date Signed January 14, 2000

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

LABORATORY REPORT

Identification:	San Luis Rey WWTP; sample taken from the belt press
Sample ID:	Associated Labs # 141484
Date sampled:	08-Sep-99
Analysis performed by:	Associated Laboratories; Orange, CA
Date reported:	05-Oct-99

Analyte	Method	**Results** (mg/kg) dry weight	Limits - 40 CFR 503 Pollutant concentrations (monthly ave)	Limits - 40 CFR 503 Ceiling concentrations (daily max)
Arsenic	7060	5.18	41 mg/kg	75 mg/kg
Cadmium	6010	2.61	39 mg/kg	85 mg/kg
Chromium	6010	32.9	no limit	no limit
Copper	6010	292	1500 mg/kg	4300 mg/kg
Lead	7420	18.1	300 mg/kg	840 mg/kg
Mercury	245.5	1.32	17 mg/kg	57 mg/kg
Molybdenum	6010	10.6	N/A	75 mg/kg
Nickel	6010	34.3	420 mg/kg	420 mg/kg
Selenium	7740	9.21	100 mg/kg	100 mg/kg
Zinc	6010	704	2800 mg/kg	7500 mg/kg

Methods: EPA SW846, Test Methods for Evaluating Solid Wastes, Third edition.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

LABORATORY REPORT

Identification:	San Luis Rey WWTP; sample taken from the belt press
Sample ID:	Associated Labs # 146016
Date sampled:	04-Oct-99
Analysis performed by:	Associated Laboratories; Orange, CA
Date reported:	04-Nov-99

Analyte	Method	**Results** (mg/kg) dry weight	Limits - 40 CFR 503 Pollutant concentrations (monthly ave)	Limits - 40 CFR 503 Ceiling concentrations (daily max)
Arsenic	7060	6.23	41 mg/kg	75 mg/kg
Cadmium	6010	ND <1.32	39 mg/kg	85 mg/kg
Chromium	6010	32.8	no limit	no limit
Copper	6010	295	1500 mg/kg	4300 mg/kg
Lead	7420	19.1	300 mg/kg	840 mg/kg
Mercury	245.5	0.34	17 mg/kg	57 mg/kg
Molybdenum	6010	12.2	N/A	75 mg/kg
Nickel	6010	29.4	420 mg/kg	420 mg/kg
Selenium	7740	10.8	100 mg/kg	100 mg/kg
Zinc	6010	764	2800 mg/kg	7500 mg/kg

Methods: EPA SW846, Test Methods for Evaluating Solid Wastes, Third edition.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

4/7239

City of Oceanside Water Utilities Department Laboratory
San Luis Rey Wastewater Treatment Plant
3950 North River Road
Oceanside, California 92054

phone: 760-966-8772
fax: 760-966-8770

To: **Associated Laboratories**

P.O. # 20005

Date: September 9, 1999

Sample Description	Date/Time Sampled	Analyze for:
Sludge samples		Analyze both samples for metals for "503" sludge regs:
SLR Belt Press Cake	08-Sep-99 @ 11:25	Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, & Zinc
LS Belt Press Cake	08-Sep-99 @ 04:00	Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, & Zinc
		These answers need to be reported as **mg/kg dry weight**.

Relinquished by:		Relinquished by:	
M Hammond	1420		
(Signature)	(Time)	(Signature)	(Time)
HAMMOND	9/9/99		
(Printed name)	(Date)	(Printed name)	(Date)
Received by:		**Received by Associated Laboratory**	
Richard Garcia	2:20		for 12:00
(Signature)	(Time)	(Signature)	(Time)
RICHARD GARCIA	9/9/99	JARON DEMPSEY	9-10-99
(Printed name)	(Date)	(Printed name)	(Date)

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-12*

CLIENT City of Oceanside (3869)
ATTN: Mary Gonzales
Water Utilities Department Lab
3950 North River Road
Oceanside. CA 92054

LAB REQUEST 42230
REPORTED 9/28/99
RECEIVED 9/ 9/99

SUBMITTER Client

COMMENTS Results expressed on "Dry Weight Basis"

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
141484	SLR Belt Press Cake
141485	LS Belt Press Cake

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Robert A. Webber
Vice President

NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 30 days from date reported.

TESTING & CONSULTING
Chemica:
Microbiologica:
Environmenta:

Order #: 141484
Matrix: SOLID
Date Sampled: 9/ 8/99
Time Sampled: 11:25
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Belt Press Cake

Analyte	Result	DF	DLR	Units	Date/Analyst
245.5 Mercury in Solids by Manual Cold Vapor					
Mercury	1.32	1	0.12	mg/Kg	9/13/99 MJ
6010B ICP Metals - Solid/Liquid					
Arsenic	5.18	1	0.20	mg/Kg	9/14/99 MT
Cadmium	2.61	1	0.20	mg/Kg	9/14/99 MT
Chromium	32.9	1	0.59	mg/Kg	9/14/99 MT
Copper	292	1	0.22	mg/Kg	9/14/99 MT
Lead	18.1	1	0.25	mg/Kg	9/14/99 MT
Molybdenum	10.6	1	0.65	mg/Kg	9/14/99 MT
Nickel	34.3	1	0.68	mg/Kg	9/14/99 MT
Selenium	9.21	1	0.37	mg/Kg	9/14/99 MT
Zinc	704	1	0.34	mg/Kg	9/14/99 MT

DLR = Detection limit for reporting purposes. ND = Not Detected below indicated detection limit, DF = Dilution Factor

City of Oceanside Water Utilities Department Laboratory
San Luis Rey Wastewater Treatment Plant
3950 North River Road
Oceanside, California 92054

49465

phone: 760-966-8772
fax: 760-966-8770

To: **Associated Laboratories**

P.O. # 20005

Date: October 7, 1999

Sample Description	Date/Time Sampled	Analyze for:
Sludge samples SLR Belt Press Cake	04-Oct-99 @ 11:25	Analyze both samples for metals for "503" sludge regs: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, & Zinc
LS Belt Press Cake	05-Oct-99 @ 04:00	Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, & Zinc These answers need to be reported as **mg/kg dry weight**.

Relinquished by: M Hammond 1230 (Signature) (Time) HAMMOND 10/7/99 (Printed name) (Date)	Relinquished by: (Signature) (Time) (Printed name) (Date)
Received by: Richard Garcia 12:30 (Signature) (Time) RICHARD GARCIA 10/7/99 (Printed name) (Date)	Received by Associated Laboratory: 14:00 (Signature) (Time) JARON DEMPSEY 10-8-99 (Printed name) (Date)

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-12(*

CLIENT City of Oceanside (3869)
ATTN: Mary Gonzales
Water Utilities Department Lab
3950 North River Road
Oceanside, CA 92054

LAB REQUEST 43465
REPORTED 10/28/99
RECEIVED 10/ 7/99

SUBMITTER Client

COMMENTS Results reported on "Dry Weight Basis"

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
146016	SLR Belt Press Cake
146017	LS Belt Press Cake

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Robert A. Webber
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

TESTING & CONSULTING
Chemical
Microbiological
Environmental

Order #: 146016
Matrix: SOLID
Date Sampled: 10/ 4/99
Time Sampled: 11:25
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Belt Press Cake
Sample Description: Sludge Samples

Analyte	Result	DF	DLR	Units	Date/Analyst
245.5 Mercury in Solids by Manual Cold Vapor					
Mercury	0.34	1	0.12	mg/Kg	10/11/99 MJ
6010B ICP Metals - Solid/Liquid					
Arsenic	6.23	1	0.20	mg/Kg	10/13/99 MD
Cadmium	ND	1	1.32	mg/Kg	10/13/99 MD
Chromium	32.8	1	0.59	mg/Kg	10/13/99 MD
Copper	295	1	0.22	mg/Kg	10/13/99 MD
Lead	19.1	1	0.25	mg/Kg	10/13/99 MD
Molybdenum	12.2	1	0.65	mg/Kg	10/13/99 MD
Nickel	29.4	1	0.68	mg/Kg	10/13/99 MD
Selenium	10.8	1	0.37	mg/Kg	10/13/99 MD
Zinc	764	1	0.34	mg/Kg	10/13/99 MD

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

TREATED SEWAGE SLUDGE MONITORING

September - October 1999

Type of monitoring: Bacteriological
Sampling frequency: bimonthly

Requirement for class B alternative I: Density of fecal coliform from seven samples of treated sewage sludge must not exceed 2 million per gram of sewage sludge solids.

Sample location	Sample	# fecal coliform per 100 ml	% TS	# fecal coliform per gm TS	log	date sampled	time set up	dig #
San Luis Rey press cake	1	300,000	14.2	21,127	4.3248	01-Sep-99	11:20	1
	2	300,000	14.9	20,134	4.3039	08-Sep-99	11:30	1
	3	220,000	15.6	14,103	4.1493	20-Sep-99	9:30	1
	4	300,000	16.3	18,405	4.2649	29-Sep-99	11:30	1
	5	500,000	14.8	33,784	4.5287	04-Oct-99	12:00	1
	6	1,700,000	14.5	117,241	5.0691	11-Oct-99	9:30	1
	7	130,000	16.4	7,927	3.8991	18-Oct-99	8:13	1
					log mean =			4.3628
				geometric mean =	antilog =(4.3628)			**23,100**

meets class B alternative I standards: **Yes**

Method: Standard Methods for the Examination of Water and Wastewater, 18th edition.
fecal coliform - direct test by most porbable number (MPN), 9221 E.2.
% TS - 2540 B.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

SAN LUIS REY WASTEWATER TREATMENT PLANT - SEPTEMBER 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1	4.47	80.1	41329	7.13	74.2	48700	76.2	64.2	44.1
2	3.84	80.5	18839				80.5	65.9	53.2
3	3.84	80.5	24203				80.5		
4									
5									
6									
7	5.27	80.5	25422	5.40	74.7	29100	77.4	65.5	44.5
8	4.42	78.8	14350				78.8	66.7	46.1
9	4.30	79.9	17360	5.23	76.9	30800	77.8	66.7	43.0
10									
11									
12									
13	4.55	80.3	30948				80.3	66.3	51.7
14	4.10	78.0	31798	4.61	77.1	20800	77.6	66.9	41.7
15	4.70	77.3	34978				77.3	64.5	46.6
16	4.19	77.5	26705	5.73	75.4	15400	76.6	65.2	42.7
17									
18									
19									
20	5.27	79.2	25325	6.23	73.8	21800	76.5	65.3	42.1
21	4.97	79.8	19873	5.55	74.9	35500	76.5		
22	4.18	79.4	19157				79.4	65.3	51.2
23	4.14	79.2	28121	5.68	74.6	24000	76.7	67.2	37.8
24									
25									
26									
27	4.76	79.7	31171	6.41	76.5	16800	78.4	65.6	47.3
28	4.95	80.1	28780	5.63	75.9	17400	78.4	66.7	44.8
29	4.56	78.7	26411	5.38	76.1	18900	77.5	65.0	46.1
30	3.82	79.3	27294	5.83	75.9	22100	77.4	67.8	38.6
AVG	4.46	79.4	26226	5.73	75.5	25108	78.0	65.9	45.4

SAN LUIS REY WASTEWATER TREATMENT PLANT - OCTOBER 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1									
2									
3									
4	6.14	79.6	34742	4.90	75.7	28100	78.1	64.1	49.8
5	4.78	80.0	21750	5.21	73.6	31200	76.1	65.1	41.4
6	5.01	80.3	30564	6.24	75.9	23400	78.2	65.3	47.4
7	3.87	79.8	27814	5.40	76.3	22200	78.0	67.5	41.3
8									
9									
10									
11	4.83	78.6	32820	5.78	74.8	25400	76.8	65.4	42.8
12	4.94	79.4	36619				79.4	66.7	48.0
13	4.11	79.0	28404	5.28	74.8	30200	76.6	66.7	38.7
14	3.55	78.3	27269	5.51	76.1	31800	76.9	67.2	38.4
15									
16									
17									
18	5.17	79.3	23574	5.37	75.3	22300	77.3	66.4	42.0
19	3.60	78.7	29268	4.71	76.7	32100	77.5	66.0	43.7
20	4.06	78.9	31785				78.9	67.2	45.2
21	3.72	80.4	30654				80.4	66.9	50.7
22									
23									
24									
25	3.81	78.6	22860				78.6	66.7	45.5
26	4.44	78.5	33007	6.13	78.1	34400	78.3	66.0	46.1
27	3.61	77.9	36020				77.9	68.0	39.7
28	3.67	78.6	37237				78.6	67.4	43.7
29									
30									
31									
AVG	4.33	79.1	30274	5.45	75.7	28110	78.0	66.4	44.1

AVERAGE % VOLATILE SOLIDS REDUCTION FOR SEPTEMBER AND OCTOBER = 45

NOTICE AND NECESSARY INFORMATION (NANI)

This form is to assist compliance with the bulk sewage sludge (biosolids) notification requirements [503.12(f)]. Please note, however, that if the biosolids meet the exceptional quality criteria, then the notification requirements do not apply. This form can be used by preparers of biosolids to transmit information to land appliers and also by land appliers to transmit information to land owners or lease holders.

Facility and Biosolids Type: San Luis Rey WWTP Dewatered Digested Sludge
Monitoring Period: From 11/01/99 **To** 12/31/99

To be Completed by PREPARERS of Biosolids

A. Please provide pollutant concentrations

Name	Concentration (mg/kg) Dry Weight	Pollutant Concentrations (Table 3, 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1, 40 CFR 503.13) (daily maximum)
Arsenic	5.9 mg/kg	41 mg/kg	75 mg/kg
Cadmium	4.3 mg/kg	39 mg/kg	85 mg/kg
Chromium	37 mg/kg	No Limit	No Limit
Copper	343 mg/kg	1500 mg/kg	4300 mg/kg
Lead	32 mg/kg	300 mg/kg	840 mg/kg
Mercury	2.1 mg/kg	17 mg/kg	57 mg/kg
Molybdenum	13 mg/kg	N/A**	75 mg/kg
Nickel	55 mg/kg	420 mg/kg	420 mg/kg
Selenium	12 mg/kg	100 mg/kg	100 mg/kg
Zinc	716 mg/kg	2800 mg/kg	7500 mg/kg
Nitrogen Concentration	Not Tested	N/A	N/A

* Biosolids may not be land applied if any pollutant exceeds these values.
** EPA has temporarily removed molybdenum limits from Table 3, Table2 and Table 4.

B. Pathogen Reduction (40 CFR 503.32) -- Please indicate the level achieved

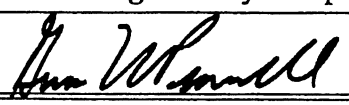
☐ Class A ☒ Class B – 40 CFR 503.32 (b) (2) Alternative 1.

C. Vector Attraction Reduction (40 CFR 503.33) -- Please indicate the option performed

☒ Option I ☐ Option 2 ☐ Option 3 ☐ Option 4
☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8
☐ No vector attraction reduction options were performed

D. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or these persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title *(type or print)*	B. Area Code and Telephone Number
Guss Pennell, Environmental Regulatory Compliance Officer	760-966-8795 & 760-966-4874 (FAX)
C. Signature 	D. Date Signed January 14, 2000

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

LABORATORY REPORT

Identification:	San Luis Rey WWTP; sample taken from the belt press
Sample ID:	Associated Labs # 44763
Date sampled:	02-Nov-99
Analysis performed by:	Associated Laboratories; Orange, CA
Date reported:	18-Nov-99

Analyte	Method	**Results** (mg/kg) dry weight	Limits - 40 CFR 503 Pollutant concentrations (monthly ave)	Limits - 40 CFR 503 Ceiling concentrations (daily max)
Arsenic	6010	6.53	41 mg/kg	75 mg/kg
Cadmium	6010	2.69	39 mg/kg	85 mg/kg
Chromium	6010	39.4	no limit	no limit
Copper	6010	341	1500 mg/kg	4300 mg/kg
Lead	6010	40.7	300 mg/kg	840 mg/kg
Mercury	245.5	2.44	17 mg/kg	57 mg/kg
Molybdenum	6010	10.5	N/A	75 mg/kg
Nickel	6010	55.9	420 mg/kg	420 mg/kg
Selenium	6010	11.5	100 mg/kg	100 mg/kg
Zinc	6010	666	2800 mg/kg	7500 mg/kg

Methods: EPA SW846, Test Methods for Evaluating Solid Wastes, Third edition.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

LABORATORY REPORT

Identification:	San Luis Rey WWTP; sample taken from the belt press
Sample ID:	Associated Labs # 157488
Date sampled:	01-Dec-99
Analysis performed by:	Associated Laboratories; Orange, CA
Date reported:	13-Jan-00

Analyte	Method	**Results** (mg/kg) dry weight	Limits - 40 CFR 503 Pollutant concentrations (monthly ave)	Limits - 40 CFR 503 Ceiling concentrations (daily max)
Arsenic	6010	5.29	41 mg/kg	75 mg/kg
Cadmium	6010	5.97	39 mg/kg	85 mg/kg
Chromium	6010	34.9	no limit	no limit
Copper	6010	344	1500 mg/kg	4300 mg/kg
Lead	6010	22.3	300 mg/kg	840 mg/kg
Mercury	245.5	1.69	17 mg/kg	57 mg/kg
Molybdenum	6010	14.5	N/A	75 mg/kg
Nickel	6010	54.7	420 mg/kg	420 mg/kg
Selenium	6010	12	100 mg/kg	100 mg/kg
Zinc	6010	766	2800 mg/kg	7500 mg/kg

Methods: EPA SW846, Test Methods for Evaluating Solid Wastes, Third edition.

WATER UTILITIES DEPARTMENT LABORATORY, by:

Mary Gonzales

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT LABORATORY

TREATED SEWAGE SLUDGE MONITORING
Nov-Dec 1999

Type of monitoring: Bacteriological
Sampling frequency: bimonthly

Requirement for class B alternative I: Density of fecal coliform from seven samples of treated sewage sludge must not exceed 2 million per gram of sewage sludge solids.

Sample location	Sample	# fecal coliform per 100 ml	% TS	# fecal coliform per gm TS	log	date sampled	time sampled	dig #
San Luis Rey	1	16,000,000	16.4	975,610	5.9893	01-Nov-99	900	1
press cake	2	3,000,000	16.2	185,185	5.2676	09-Nov-99	900	1
	3	3,000,000	14.3	209,790	5.3218	15-Nov-99	945	1
	4	500,000	14.9	33,557	4.5258	22-Nov-99	930	1
	5	500,000	15.8	31,646	4.5003	01-Dec-99	1015	1
	6	500,000	15.4	32,468	4.5114	06-Dec-99	1115	1
	7	40,000	16.4	2,439	3.3872	15-Dec-99	1100	1

log mean = 4.7862

geometric mean = antilog =(4.7862) **61,122**

meets class B alternative I standards: **Yes**

Method: Standard Methods for the Examination of Water and Wastewater, 18th edition.
fecal coliform - direct test by most porbable number (MPN), 9221 E.2.
% TS - 2540 B.

WATER UTILITIES DEPARTMENT LABORATORY, by: Valerie Gallwas

Mary Gonzales
Laboratory Supervisor

3950 NORTH RIVER ROAD OCEANSIDE, CA 92054 TELEPHONE 760-966-8772 FAX 760-966-8770

SAN LUIS REY WASTEWATER TREATMENT PLANT - NOVEMBER 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1									
2	4.63	79.4	35406	4.89	79.0	21700	79.2	66.2	48.7
3	4.05	78.6	32841	5.91	78.1	25500	78.3	67.7	42.0
4	4.28	80.4	27449				80.4	66.4	51.8
5	3.96	79.3	28327				79.3		
6								66.7	
7									
8									
9	5.09	79.0	29975	6.36	77.8	17300	78.5	65.5	48.0
10	4.94	79.4	38720	4.12	79.2	15800	79.3	66.9	47.4
11	4.51	79.7	36135	5.12	77.8	20700	79.0	65.6	49.2
12									
13									
14									
15									
16	2.11	79.6	34523	6.98	76.5	17900	77.6	65.1	46.3
17	4.53	78.3	15784	6.77	78.0	22600	78.1		
18	3.65	78.6	18525				78.6	64.5	50.5
19	4.01	81.0	14515	4.95	77.1	11600	79.1	66.9	46.5
20									
21									
22									
23	2.68	76.5	39897	5.03	79.6	13100	77.7	64.7	47.3
24	3.09	78.6	44935	5.21	80.1	23400	79.3		
25	3.28	78.0	44513	4.33	79.1	29600	78.5	65.7	47.6
26									
27									
28									
29									
30	3.17	78.5	40143				78.5	67.5	43.1
AVG	3.87	79.0	32113	5.42	78.4	19927	78.8	66.1	47.4

SAN LUIS REY WASTEWATER TREATMENT PLANT - DECEMBER 1999

REQUIREMENTS FOR VECTOR ATTRACTION REDUCTION - 503.33 (b) (1) - OPTION 1
REDUCTION IN VOLATILE SOLIDS CONTENT - AT LEAST 38% REDUCTION REQUIRED

MONT	RAW SLUDGE			DAF SLUDGE			DIGESTER	PRESS	VOL. SOLIDS
	%TS	%VS	FLOW	%TS	%VS	FLOW	FEED %VS	FEED %VS	REDUCTION
1	2.68	78.1	50702	6.18	78.6	11700	78.3	67.5	42.4
2	2.90	79.7	48481	5.52	78.5	33000	79.0	67.3	45.4
3									
4									
5									
6	1.09	69.2	48574	5.26	77.3	22900	74.8	67.3	30.8
7	3.05	76.1	56729				76.1	67.2	35.7
8	3.11	79.4	59559				79.4	66.0	49.6
9	2.99	79.1	60940	4.51	77.3	21600	78.5	66.0	46.7
10									
11									
12									
13	2.57	77.7	43710				77.7	68.2	38.4
14	3.03	78.9	38393				78.9	67.3	45.0
15	3.44	77.6	40070	5.75	75.0	28200	76.2	67.0	36.6
16	3.31	79.7	38414				79.7	66.3	49.9
17									
18									
19									
20	3.37	80.9	35924	7.03	78.2	18100	79.5	67.3	47.0
21	3.16	79.8	38864				79.8	69.3	42.9
22	4.90	79.3	37570				79.3	67.1	46.8
23	4.12	78.9	42074				78.9	66.7	46.4
24									
25									
26									
27	4.99	79.3	29665				79.3	67.1	46.8
28	4.99	81.4	34843				81.4	66.4	54.8
29	2.70	78.5	51528	6.63	78.9	24100	78.7	67.3	44.3
30	2.65	77.9	59759	5.32	75.8	31000	76.8	63.9	46.6
31									
AVG	3.28	78.4	45322	5.78	77.5	23825	78.5	67.0	44.4

AVERAGE % VOLATILE SOLIDS REDUCTION FOR NOVEMBER AND DECEMBER = 46

City of Oceanside
SEWAGE SLUDGE ANNUAL REPORT - 1999

Location: San Luis Rey Wastewater Treatment Plant – Continued:

Priority Pollutant Analyses: See following pages for samples taken on May 17, 1999 and October 13, 1999. The monitoring was required by our NPDES Permit No. CA0107433 in Order 95-07 under Section F. 4. a. Pretreatment Requirements.

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT City of Oceanside (3869)
ATTN: Mary Gonzales
Water Utilities Department Lab
3950 North River Road
Oceanside, CA 92054

LAB REQUEST 37557
REPORTED 6/21/99
RECEIVED 5/19/99

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
123256	SLR Raw Influent - Comp.
123257	SLR Final Effluent - Comp
123258	LS Raw Influent - Comp
123259	LS Final Effluent - Comp
123299	SLR Sludge - Comp
123300	LS Sludge - Comp

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Robert A. Webber
Vice President

NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 30 days from date reported.

TESTING & CONSULTING
Chemical
Microbiological
Environmental

City of Oceanside Water Utilities Department Laboratory
San Luis Rey Wastewater Treatment Plant
3950 North River Road
Oceanside, California 92054

phone: 760-966-8772
fax: 760-966-8770

97557

To: **Associated Laboratories**

P.O. # 99008

Date: May 18, 1999

Sample Description	Date/Time Sampled	Analyze for:
SLR raw inf, final eff & sludge cake 24 hour composites	SLR cake 0930 to1215 on 5/17/99 SLR raw & final 0930 on 5/17/99 to 0930 on 5/18/99	metals - arsenic, cadmium chromium copper, lead, mercury, nickel, selenium silver, zinc, beryllium, antimony, thallium, molybdenum
LS raw inf, final eff & sludge cake 24 hour composites	LS cake 1400 on 5/17/99 to 0200 on 5/18/99 LS raw & final 0400 on 5/17/99 to 0400 on 5/18/99	SM 4500-CN⁻ C&E - cyanide EPA 900 - radioactivity tributyltin (on final only)
SLR raw inf, final eff & sludge cake **LS raw inf, final eff & sludge cake** grab samples	SLR cake 0930 to1215 on 5/17/99 SLR raw inf 0930 on 5/18/99 SLR final eff 0935 on 5/18/99 LS cake 1400 on 5/17/99 to 0200 on 5/18/99 LS raw inf 0400 on 5/18/99 LS final eff 0400 on 5/18/99	EPA 1664 - grease/oil (raw & final only) EPA 603 - acrolein/acrylonitrile EPA 608/8080 - pest/pcb EPA 610/8310 - PAHs EPA 624/8240 - volatiles EPA 625/8270 - semi-volatiles

Relinquished by:		Relinquished by:	
Mary Gonzales	1315		5:30
(Signature)	(Time)	(Signature)	(Time)
Mary Gonzales	5/19/99	RICHARD GALLIA	5/19/99
(Printed name)	(Date)	(Printed name)	(Date)
Received by:		**Received by Associated Laboratory**	
	1515		
(Signature)	(Time)	(Signature)	(Time)
Richard Gallia	5-19-99	Albert Vargas	5-20-99
(Printed name)	(Date)	(Printed name)	(Date)

Order #: 123299
Matrix: SOLID
Date Sampled: 5/17/99
Time Sampled: 0930 to 1215
Sampled By: Plant Operators

Client: City of Oceanside
Client Sample ID: SLR Sludge - Comp

Analyte	Result	DF	DLR	Units	Date/Analyst
245.5 Mercury in Solids by Manual Cold Vapor					
Mercury	0.38	1	0.12	mg/Kg	6/ 1/99 MD
335.2 Total Cyanide					
Cyanide	ND	1	0.5	mg/Kg	5/24/99 JA
6010B ICP Metals - Solid/Liquid					
Antimony	2.41	1	1.44	mg/Kg	5/27/99 MT
Beryllium	ND	1	0.10	mg/Kg	5/27/99 MT
Cadmium	0.757	1	0.20	mg/Kg	5/27/99 MT
Chromium	6.01	1	0.59	mg/Kg	5/27/99 MT
Copper	42.8	1	0.22	mg/Kg	5/27/99 M
Molybdenum	1.75	1	0.65	mg/Kg	5/27/99
Nickel	7.37	1	0.68	mg/Kg	5/27/99
Silver	3.56	1	0.50	mg/Kg	5/27/99
Zinc	111	1	0.34	mg/Kg	5/27/99
7060A Arsenic by Graphite Furnace					
Arsenic	ND	10	10.0	mg/Kg	5/27/9
7420 Lead AA, Direct Aspiration					
Lead	ND	1	10	mg/Kg	5/
7740 Selenium by Graphite Furnace					
Selenium	ND	1	1.0	mg/Kg	
7841 Thallium by Graphite Furnace					
Thallium	ND	10	10.0	mg	
8081A - Organochlorine Pesticides by GC					

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = D

Order #: 123299 **Client:** City of Oceanside

Matrix: SOLID **Client Sample ID:** SLR Sludge - Comp

Date Sampled: 5/17/99

Time Sampled: 0930 to 1215

Sampled By: Plant Operators

Analyte	Result	DF	DLR	Units	Date/Analyst	
Aldrin	ND	1	0.002	mg/Kg	5/30/99	LS
Alpha BHC	ND	1	0.002	mg/Kg	5/30/99	LS
Beta BHC	ND	1	0.003	mg/Kg	5/30/99	LS
Chlordane	ND	1	0.008	mg/Kg	5/30/99	LS
DDD	ND	1	0.004	mg/Kg	5/30/99	LS
DDE	ND	1	0.003	mg/Kg	5/30/99	LS
DDT	ND	1	0.003	mg/Kg	5/30/99	LS
Delta BHC	ND	1	0.005	mg/Kg	5/30/99	LS
Dieldrin	ND	1	0.003	mg/Kg	5/30/99	LS
Endosulfan I	ND	1	0.004	mg/Kg	5/30/99	LS
Endosulfan II	ND	1	0.003	mg/Kg	5/30/99	LS
Endosulfan sulfate	ND	1	0.003	mg/Kg	5/30/99	LS
Endrin	ND	1	0.004	mg/Kg	5/30/99	LS
Endrin Ketone	ND	1	0.01	mg/Kg	5/30/99	LS
Endrin aldehyde	ND	1	0.004	mg/Kg	5/30/99	LS
Gamma BHC (Lindane)	ND	1	0.011	mg/Kg	5/30/99	LS
Heptachlor	ND	1	0.002	mg/Kg	5/30/99	LS
Heptachlor epoxide	ND	1	0.003	mg/Kg	5/30/99	LS
Kepone	ND	1	0.01	mg/Kg	5/30/99	LS
Lindane	ND	1	0.003	mg/Kg	5/30/99	LS
Methoxychlor	ND	1	0.025	mg/Kg	5/30/99	LS
Mirex	ND	1	0.012	mg/Kg	5/30/99	LS
PCB-1016	ND	1	0.033	mg/Kg	5/30/99	LS
PCB-1221	ND	1	0.05	mg/Kg	5/30/99	LS
PCB-1232	ND	1	0.04	mg/Kg	5/30/99	LS
PCB-1242	ND	1	0.02	mg/Kg	5/30/99	LS
PCB-1248	ND	1	0.08	mg/Kg	5/30/99	LS
PCB-1254	ND	1	0.011	mg/Kg	5/30/99	LS
PCB-1260	ND	1	0.025	mg/Kg	5/30/99	LS
Toxaphene	ND	1	0.24	mg/Kg	5/30/99	LS

8260B Volatile Organic Compounds

1,1,1,2-Tetrachloroethane	ND	1	5	ug/Kg	6/ 8/99	AHT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 123299 **Client:** City of Oceanside

Matrix: SOLID **Client Sample ID:** SLR Sludge - Comp

Date Sampled: 5/17/99

Time Sampled: 0930 to 1215

Sampled By: Plant Operators

8260B Volatile Organic Compounds

Analyte	Result	DF	DLR	Units	Date/Analyst
1,1,1-Trichloroethane	ND	1	5	ug/Kg	6/ 8/99 AHT
1,1,2,2-Tetrachloroethane	ND	1	5	ug/Kg	6/ 8/99 AHT
1,1,2-Trichloroethane	ND	1	5	ug/Kg	6/ 8/99 AHT
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/Kg	6/ 8/99 AHT
1,1-Dichloroethane	ND	1	5	ug/Kg	6/ 8/99 AHT
1,1-Dichloroethene	ND	1	5	ug/Kg	6/ 8/99 AHT
1,1-Dichloropropene	ND	1	5	ug/Kg	6/ 8/99 AHT
1,2,3-Trichlorobenzene	ND	1	5	ug/Kg	6/ 8/99 AHT
1,2,3-Trichloropropane	ND	1	5	ug/Kg	6/ 8/99 AHT
1,2,4-Trichlorobenzene	ND	1	5	ug/Kg	6/ 8/99 AHT
1,2,4-Trimethylbenzene	ND	1	5	ug/Kg	6/ 8/99 AHT
1,2-Dibromo-3-chloropropane	ND	1	5	ug/Kg	6/ 8/99 AHT
1,2-Dibromoethane	ND	1	5	ug/Kg	6/ 8/99 AHT
1,2-Dichlorobenzene	ND	1	5	ug/Kg	6/ 8/99 AHT
1,2-Dichloroethane	ND	1	5	ug/Kg	6/ 8/99 AHT
1,2-Dichloropropane	ND	1	5	ug/Kg	6/ 8/99 AHT
1,3,5-Trimethylbenzene	ND	1	5	ug/Kg	6/ 8/99 AHT
1,3-Dichlorobenzene	ND	1	5	ug/Kg	6/ 8/99 AHT
1,3-Dichloropropane	ND	1	5	ug/Kg	6/ 8/99 AHT
1,4-Dichlorobenzene	ND	1	5	ug/Kg	6/ 8/99 AHT
1,4-Dioxane	ND	1	200	ug/Kg	6/ 8/99 AHT
1-Chlorohexane	ND	1	5	ug/Kg	6/ 8/99 AHT
2,2-Dichloropropane	ND	1	5	ug/Kg	6/ 8/99 AHT
2-Butanone (MEK)	ND	1	100	ug/Kg	6/ 8/99 AHT
2-Chloroethyl vinyl ether	ND	1	5	ug/Kg	6/ 8/99 AHT
2-Chlorotoluene	ND	1	5	ug/Kg	6/ 8/99 AHT
2-Hexanone	ND	1	5	ug/Kg	6/ 8/99 AHT
4-Chlorotoluene	ND	1	5	ug/Kg	6/ 8/99 AHT
4-Methyl -2- Pentanone	ND	1	5	ug/Kg	6/ 8/99 AHT
Acetone	ND	1	5	ug/Kg	6/ 8/99 AHT
Acetonitrile	ND	1	5	ug/Kg	6/ 8/99 AHT
Acrolein	ND	1	200	ug/Kg	6/ 8/99 AHT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 123299 **Client:** City of Oceanside

Matrix: SOLID **Client Sample ID:** SLR Sludge - Comp

Date Sampled: 5/17/99

Time Sampled: 0930 to 1215

Sampled By: Plant Operators

8260B Volatile Organic Compounds

Analyte	Result	DF	DLR	Units	Date/Analyst	
Acrylonitrile	ND	1	5	ug/Kg	6/ 8/99	AHT
Allyl chloride	ND	1	5	ug/Kg	6/ 8/99	AHT
Benzene	ND	1	5	ug/Kg	6/ 8/99	AHT
Benzyl chloride	ND	1	5	ug/Kg	6/ 8/99	AHT
Bromobenzene	ND	1	5	ug/Kg	6/ 8/99	AHT
Bromochloromethane	ND	1	5	ug/Kg	6/ 8/99	AHT
Bromodichloromethane	ND	1	5	ug/Kg	6/ 8/99	AHT
Bromoform	ND	1	5	ug/Kg	6/ 8/99	AHT
Bromomethane	ND	1	5	ug/Kg	6/ 8/99	AHT
Carbon Disulfide	ND	1	5	ug/Kg	6/ 8/99	AHT
Carbon tetrachloride	ND	1	5	ug/Kg	6/ 8/99	AHT
Chlorobenzene	ND	1	5	ug/Kg	6/ 8/99	AHT
Chloroethane	ND	1	5	ug/Kg	6/ 8/99	AHT
Chloroform	ND	1	5	ug/Kg	6/ 8/99	AHT
Chloromethane	ND	1	5	ug/Kg	6/ 8/99	AHT
Dibromochloromethane	ND	1	5	ug/Kg	6/ 8/99	AHT
Dibromomethane	ND	1	5	ug/Kg	6/ 8/99	AHT
Dichlorodifluoromethane	11	1	5	ug/Kg	6/ 8/99	AHT
Ethyl benzene	43	1	5	ug/Kg	6/ 8/99	AHT
Ethyl methacrylate	ND	1	5	ug/Kg	6/ 8/99	AHT
Hexachlorobutadiene	ND	1	5	ug/Kg	6/ 8/99	AHT
Iodomethane	ND	1	5	ug/Kg	6/ 8/99	AHT
Isopropylbenzene (Cumene)	ND	1	5	ug/Kg	6/ 8/99	AHT
Methacrylonitrile	ND	1	5	ug/Kg	6/ 8/99	AHT
Methyl methacrylate	ND	1	5	ug/Kg	6/ 8/99	AHT
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	6/ 8/99	AHT
Methylene chloride	ND	1	5	ug/Kg	6/ 8/99	AHT
Naphthalene	ND	1	5	ug/Kg	6/ 8/99	AHT
Pentachloroethane	ND	1	5	ug/Kg	6/ 8/99	AHT
Propionitrile	ND	1	5	ug/Kg	6/ 8/99	AHT
Styrene	ND	1	5	ug/Kg	6/ 8/99	AHT
Tetrachloroethene	ND	1	5	ug/Kg	6/ 8/99	AHT

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 123299 **Client:** City of Oceanside

Matrix: SOLID **Client Sample ID:** SLR Sludge - Comp

Date Sampled: 5/17/99

Time Sampled: 0930 to 1215

Sampled By: Plant Operators

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Toluene	60	1	5	ug/Kg	6/ 8/99	AHT
Trichloroethene	ND	1	5	ug/Kg	6/ 8/99	AHT
Trichlorofluoromethane	ND	1	5	ug/Kg	6/ 8/99	AHT
Vinyl acetate	ND	1	50	ug/Kg	6/ 8/99	AHT
Vinyl chloride	ND	1	5	ug/Kg	6/ 8/99	AHT
Xylenes, total	64	1	5	ug/Kg	6/ 8/99	AHT
cis-1,2-Dichloroethene	ND	1	5	ug/Kg	6/ 8/99	AHT
cis-1,3-Dichloropropene	ND	1	5	ug/Kg	6/ 8/99	AHT
cis-1,4-Dichloro-2-butene	11	1	5	ug/Kg	6/ 8/99	AHT
m and p-Xylene	50	1	5	ug/Kg	6/ 8/99	AHT
n-Butylbenzene	ND	1	5	ug/Kg	6/ 8/99	AHT
n-Propylbenzene	11	1	5	ug/Kg	6/ 8/99	AHT
o-Xylene	15	1	5	ug/Kg	6/ 8/99	AHT
p-Isopropyltoluene	ND	1	5	ug/Kg	6/ 8/99	AHT
sec-Butylbenzene	ND	1	5	ug/Kg	6/ 8/99	AHT
tert-Butylbenzene	ND	1	5	ug/Kg	6/ 8/99	AHT
trans-1,2-Dichloroethene	ND	1	5	ug/Kg	6/ 8/99	AHT
trans-1,3-Dichloropropene	ND	1	5	ug/Kg	6/ 8/99	AHT
trans-1,4-Dichloro-2-butene	ND	1	5	ug/Kg	6/ 8/99	AHT
8270C Acid/Base/Neutral Extractables						
1,2,4-Trichlorobenzene	ND	3	999.0	ug/Kg	6/ 2/99	DP
1,2-Dichlorobenzene	ND	3	999.0	ug/Kg	6/ 2/99	DP
1,3-Dichlorobenzene	ND	3	999.0	ug/Kg	6/ 2/99	DP
1,4-Dichlorobenzene	ND	3	999.0	ug/Kg	6/ 2/99	DP
2,4,5-Trichlorophenol	ND	3	4995.0	ug/Kg	6/ 2/99	DP
2,4,6-Trichlorophenol	ND	3	4995.0	ug/Kg	6/ 2/99	DP
2,4-Dichlorophenol	ND	3	999.0	ug/Kg	6/ 2/99	DP
2,4-Dimethylphenol	ND	3	999.0	ug/Kg	6/ 2/99	DP
2,4-Dinitrophenol	ND	3	4995.0	ug/Kg	6/ 2/99	DP
2,4-Dinitrotoluene	ND	3	999.0	ug/Kg	6/ 2/99	DP
2,6-Dinitrotoluene	ND	3	999.0	ug/Kg	6/ 2/99	DP

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 123299 **Client:** City of Oceanside

Matrix: SOLID **Client Sample ID:** SLR Sludge - Comp

Date Sampled: 5/17/99

Time Sampled: 0930 to 1215

Sampled By: Plant Operators

8270C Acid/Base/Neutral Extractables

Analyte	Result	DF	DLR	Units	Date/Analyst	
2-Chloronaphthalene	ND	3	999.0	ug/Kg	6/ 2/99	DP
2-Chlorophenol	ND	3	999.0	ug/Kg	6/ 2/99	DP
2-Methylnaphthalene	ND	3	999.0	ug/Kg	6/ 2/99	DP
2-Methylphenol	ND	3	999.0	ug/Kg	6/ 2/99	DP
2-Nitroaniline	ND	3	4995.0	ug/Kg	6/ 2/99	DP
2-Nitrophenol	ND	3	999.0	ug/Kg	6/ 2/99	DP
3,3-Dichlorobenzidine	ND	3	999.0	ug/Kg	6/ 2/99	DP
3-Nitroaniline	ND	3	4995.0	ug/Kg	6/ 2/99	DP
4,6-Dinitro-2-methylphenol	ND	3	4995.0	ug/Kg	6/ 2/99	DP
4-Bromophenyl-phenylether	ND	3	999.0	ug/Kg	6/ 2/99	DP
4-Chloro-3-methylphenol	ND	3	999.0	ug/Kg	6/ 2/99	DP
4-Chloroaniline	ND	3	999.0	ug/Kg	6/ 2/99	DP
4-Chlorophenyl-phenylether	ND	3	999.0	ug/Kg	6/ 2/99	DP
4-Methylphenol	ND	3	999.0	ug/Kg	6/ 2/99	DP
4-Nitroaniline	ND	3	4995.0	ug/Kg	6/ 2/99	DP
4-Nitrophenol	ND	3	4995.0	ug/Kg	6/ 2/99	DP
Acenaphthene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Acenaphthylene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Anthracene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Benzo(a)anthracene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Benzo(a)pyrene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Benzo(b)fluoranthene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Benzo(g,h,i)perylene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Benzo(k)fluoranthene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Benzoic Acid	ND	3	999.0	ug/Kg	6/ 2/99	DP
Benzyl alcohol	ND	3	999.0	ug/Kg	6/ 2/99	DP
Butylbenzylphthalate	ND	3	999.0	ug/Kg	6/ 2/99	DP
Chrysene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Di-n-butylphthalate	ND	3	999.0	ug/Kg	6/ 2/99	DP
Di-n-octylphthalate	ND	3	999.0	ug/Kg	6/ 2/99	DP
Dibenz(a,h)anthracene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Dibenzofuran	ND	3	999.0	ug/Kg	6/ 2/99	DP

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 123299 **Client:** City of Oceanside

Matrix: SOLID **Client Sample ID:** SLR Sludge - Comp

Date Sampled: 5/17/99

Time Sampled: 0930 to 1215

Sampled By: Plant Operators

Analyte	Result	DF	DLR	Units	Date/Analyst	
8270C Acid/Base/Neutral Extractables						
Diethylphthalate	ND	3	999.0	ug/Kg	6/ 2/99	DP
Dimethylphthalate	ND	3	999.0	ug/Kg	6/ 2/99	DP
Fluoranthene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Fluorene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Hexachlorobenzene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Hexachlorobutadiene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Hexachlorocyclopentadiene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Hexachloroethane	ND	3	999.0	ug/Kg	6/ 2/99	DP
Indeno(1,2,3-c,d)pyrene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Isophorone	ND	3	999.0	ug/Kg	6/ 2/99	DP
N-Nitroso-di-n-propylamine	ND	3	999.0	ug/Kg	6/ 2/99	DP
N-Nitrosodiphenylamine	ND	3	999.0	ug/Kg	6/ 2/99	DP
Naphthalene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Nitrobenzene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Pentachlorophenol	ND	3	4995.0	ug/Kg	6/ 2/99	DP
Phenanthrene	ND	3	999.0	ug/Kg	6/ 2/99	DP
Phenol	ND	3	999.0	ug/Kg	6/ 2/99	DP
Pyrene	ND	3	999.0	ug/Kg	6/ 2/99	DP
bis(2-Chloroethoxy)methane	ND	3	999.0	ug/Kg	6/ 2/99	DP
bis(2-Chloroethyl)ether	ND	3	999.0	ug/Kg	6/ 2/99	DP
bis(2-Chloroisopropyl) ether	ND	3	999.0	ug/Kg	6/ 2/99	DP
bis(2-Ethylhexyl)phthalate	74	3	999.0	ug/Kg	6/ 2/99	DP
8310 PAH's by HPLC						
Acenaphthene	ND	1	0.5	mg/Kg	5/19/99	LS
Acenaphthylene	ND	1	0.5	mg/Kg	5/19/99	LS
Anthracene	ND	1	0.05	mg/Kg	5/19/99	LS
Benzo(a)anthracene	ND	1	0.05	mg/Kg	5/19/99	LS
Benzo(a)pyrene	ND	1	0.05	mg/Kg	5/19/99	LS
Benzo(b)fluoranthene	ND	1	0.05	mg/Kg	5/19/99	LS
Benzo(ghi)perylene	ND	1	0.05	mg/Kg	5/19/99	LS

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 123299 **Client:** City of Oceanside

Matrix: SOLID **Client Sample ID:** SLR Sludge - Comp

Date Sampled: 5/17/99

Time Sampled: 0930 to 1215

Sampled By: Plant Operators

Analyte	Result	DF	DLR	Units	Date/Analyst	
8310 PAH's by HPLC						
Benzo(k)fluoranthene	ND	1	0.05	mg/Kg	5/19/99	LS
Chrysene	ND	1	0.05	mg/Kg	5/19/99	LS
Dibenzo(a,h)anthracene	ND	1	0.05	mg/Kg	5/19/99	LS
Fluoranthene	ND	1	0.05	mg/Kg	5/19/99	LS
Fluorene	ND	1	0.15	mg/Kg	5/19/99	LS
Indeno(1,2,3-cd)pyrene	ND	1	0.05	mg/Kg	5/19/99	LS
Naphthalene	ND	1	0.5	mg/Kg	5/19/99	LS
Phenanthrene	ND	1	0.1	mg/Kg	5/19/99	LS
Pyrene	ND	1	0.05	mg/Kg	5/19/99	LS
900.0 Radioactivity - Gross Alpha and Beta						
Radioactivity - Beta	1.1+/-0.1	1	1.0	pCi/g	6/ 1/99	QP
Radioactivity - Gross Alpha	1.1+/-0.2	1	0.5	pCi/g	6/ 1/99	QP

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92868 - 714/771-6900 *FAX 714/538-1209*

CLIENT City of Oceanside (3869)
ATTN: Mary Gonzales
Water Utilities Department Lab
3950 North River Road
Oceanside, CA 92054

LAB REQUEST 43840
REPORTED 11/16/99
RECEIVED 10/15/99

PROJECT P.O. #20005

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
147850	SLR Sludge Cake
147851	LS Sludge Cake

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Robert A. Webber
Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

TESTING & CONSULTING
Chemical
Microbiological
Environmental

City of Oceanside Water Utilities Department Laboratory
San Luis Rey Wastewater Treatment Plant
3950 North River Road
Oceanside, California 92054

phone: 760-966-8772
fax: 760-966-8770

43840

To: **Associated Laboratories**

P.O. # 20005

Date: October 14, 1999

Sample Description	Date/Time Sampled	Analyze for:
SLR Sludge cake 12 discrete grabs collected during hrs operation & composited in lab	10/13/99 from 0900 to 1420 hrs	**Analyze both samples for:** metals - arsenic, cadmium chromium copper, lead, mercury, nickel, selenium silver, zinc, beryllium, antimony, thallium, molybdenum ammonia
LS Sludge Cake 12 discrete grabs collected during hrs operation & composited in lab	10/13/99 @ 1800 hrs to 10/14/99 @ 0500 hrs	SM 4500-CN^- C&E - cyanide EPA 603 - acrolein/acrylonitrile EPA 608/8080 - pest/pcb EPA 610/8310 - PAHs EPA 624/8240 - volatiles EPA 625/8270 - semi-volatiles

Relinquished by:		Relinquished by:	
Mary Gonzales	1155		
(Signature)	(Time)	(Signature)	(Time)
MARY GONZALES	10/14/99		
(Printed name)	(Date)	(Printed name)	(Date)
Received by:		**Received by Associated Laboratory**	
Richard Garcia	11:30		10:00
(Signature)	(Time)	(Signature)	(Time)
RICHARD GARCIA	10/14/99	JARON DEMPSEY	10-15-99
(Printed name)	(Date)	(Printed name)	(Date)

Order #: 147850
Matrix: SOLID
Date Sampled: 10/13/99
Time Sampled: 09:00
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Sludge Cake
Sample Description: 12 Discrete Grabs Collected 10/13/99 from 0900hrs. to 1420hrs.

Analyte	Result	DF	DLR	Units	Date/Analyst	
245.5 Mercury in Solids by Manual Cold Vapor						
Mercury	0.23	1	0.12	mg/Kg	10/18/99	MJ
335.2 Total Cyanide						
Cyanide	0.5	1	0.5	mg/Kg	10/19/99	JA
350.2 Ammonia by Distillation						
Ammonia-N	2926	1	5.0	mg/Kg	10/18/99	DK
6010B ICP Metals - Solid/Liquid						
Antimony	3.5	1	1.44	mg/Kg	10/29/99	MT
Arsenic	0.936	1	0.20	mg/Kg	10/29/99	MT
Beryllium	ND	1	0.10	mg/Kg	10/29/99	MT
Cadmium	0.584	1	0.20	mg/Kg	10/29/99	MT
Chromium	3.05	1	0.59	mg/Kg	10/29/99	MT
Copper	35.3	1	0.22	mg/Kg	10/29/99	MT
Lead	3.2	1	0.25	mg/Kg	10/29/99	MT
Molybdenum	ND	1	0.65	mg/Kg	10/29/99	MT
Nickel	3.86	1	0.68	mg/Kg	10/29/99	MT
Selenium	1.66	1	0.37	mg/Kg	10/29/99	MT
Silver	4.16	1	0.50	mg/Kg	10/29/99	MT
Thallium	ND	1	0.24	mg/Kg	10/29/99	MT
Zinc	91.5	1	0.34	mg/Kg	10/29/99	MT
8081A - Organochlorine Pesticides by GC						
Aldrin	ND	5	0.01	mg/Kg	10/21/99	LS
Alpha BHC	ND	5	0.01	mg/Kg	10/21/99	LS
Beta BHC	ND	5	0.015	mg/Kg	10/21/99	LS
Chlordane	ND	5	0.04	mg/Kg	10/21/99	LS
DDD	ND	5	0.02	mg/Kg	10/21/99	LS
DDE	ND	5	0.015	mg/Kg	10/21/99	LS
DDT	ND	5	0.015	mg/Kg	10/21/99	LS
Delta BHC	ND	5	0.025	mg/Kg	10/21/99	LS
Dieldrin	ND	5	0.015	mg/Kg	10/21/99	LS
Endosulfan I	ND	5	0.02	mg/Kg	10/21/99	LS
Endosulfan II	ND	5	0.015	mg/Kg	10/21/99	LS

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 147850
Matrix: SOLID
Date Sampled: 10/13/99
Time Sampled: 09:00
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Sludge Cake
Sample Description: 12 Discrete Grabs Collected 10/13/99 from 0900hrs. to 1420hrs.

Analyte	Result	DF	DLR	Units	Date/Analyst	
8081A - Organochlorine Pesticides by GC						
Endosulfan sulfate	ND	5	0.015	mg/Kg	10/21/99	LS
Endrin	ND	5	0.02	mg/Kg	10/21/99	LS
Endrin aldehyde	ND	5	0.02	mg/Kg	10/21/99	LS
Heptachlor	ND	5	0.01	mg/Kg	10/21/99	LS
Heptachlor epoxide	ND	5	0.015	mg/Kg	10/21/99	LS
Lindane	ND	5	0.015	mg/Kg	10/21/99	LS
Methoxychlor	ND	5	0.125	mg/Kg	10/21/99	LS
Toxaphene	ND	5	1.2	mg/Kg	10/21/99	LS
8082 - Polychlorinated Biphenyls (PCBs) by GC						
PCB-1016	ND	5	0.165	mg/Kg	10/22/99	LS
PCB-1221	ND	5	0.3	mg/Kg	10/22/99	LS
PCB-1232	ND	5	0.2	mg/Kg	10/22/99	LS
PCB-1242	ND	5	0.1	mg/Kg	10/22/99	LS
PCB-1248	ND	5	0.4	mg/Kg	10/22/99	LS
PCB-1254	ND	5	0.05	mg/Kg	10/22/99	LS
PCB-1260	ND	5	0.125	mg/Kg	10/22/99	LS
8260B Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	10	50.0	ug/Kg	10/20/99	DP
1,1,1-Trichloroethane	ND	10	50.0	ug/Kg	10/20/99	DP
1,1,2,2-Tetrachloroethane	ND	10	50.0	ug/Kg	10/20/99	DP
1,1,2-Trichloroethane	ND	10	50.0	ug/Kg	10/20/99	DP
1,1,2-Trichlorotrifluoroethane	ND	10	50.0	ug/Kg	10/20/99	DP
1,1-Dichloroethane	ND	10	50.0	ug/Kg	10/20/99	DP
1,1-Dichloroethene	ND	10	50.0	ug/Kg	10/20/99	DP
1,1-Dichloropropene	ND	10	50.0	ug/Kg	10/20/99	DP
1,2,3-Trichlorobenzene	ND	10	50.0	ug/Kg	10/20/99	DP
1,2,3-Trichloropropane	ND	10	50.0	ug/Kg	10/20/99	DP
1,2,4-Trichlorobenzene	ND	10	50.0	ug/Kg	10/20/99	DP
1,2,4-Trimethylbenzene	ND	10	50.0	ug/Kg	10/20/99	DP
1,2-Dibromo-3-chloropropane	ND	10	50.0	ug/Kg	10/20/99	DP
1,2-Dibromoethane	ND	10	50.0	ug/Kg	10/20/99	DP
1,2-Dichlorobenzene	ND	10	50.0	ug/Kg	10/20/99	DP
1,2-Dichloroethane	ND	10	50.0	ug/Kg	10/20/99	DP
1,2-Dichloropropane	ND	10	50.0	ug/Kg	10/20/99	DP

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 147850
Matrix: SOLID
Date Sampled: 10/13/99
Time Sampled: 09:00
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Sludge Cake
Sample Description: 12 Discrete Grabs Collected 10/13/99 from 0900hrs. to 1420hrs.

8260B Volatile Organic Compounds

Analyte	Result	DF	DLR	Units	Date/Analyst	
1,3,5-Trimethylbenzene	ND	10	50.0	ug/Kg	10/20/99	DP
1,3-Dichlorobenzene	ND	10	50.0	ug/Kg	10/20/99	DP
1,3-Dichloropropane	ND	10	50.0	ug/Kg	10/20/99	DP
1,4-Dichlorobenzene	ND	10	50.0	ug/Kg	10/20/99	DP
1,4-Dioxane	ND	10	2000.0	ug/Kg	10/20/99	DP
1-Chlorohexane	ND	10	50.0	ug/Kg	10/20/99	DP
2,2-Dichloropropane	ND	10	50.0	ug/Kg	10/20/99	DP
2-Butanone (MEK)	ND	10	1000.0	ug/Kg	10/20/99	DP
2-Chloroethyl vinyl ether	ND	10	50.0	ug/Kg	10/20/99	DP
2-Chlorotoluene	ND	10	50.0	ug/Kg	10/20/99	DP
2-Hexanone	ND	10	50.0	ug/Kg	10/20/99	DP
4-Chlorotoluene	ND	10	50.0	ug/Kg	10/20/99	DP
4-Methyl -2- Pentanone	ND	10	50.0	ug/Kg	10/20/99	DP
Acetone	ND	10	50.0	ug/Kg	10/20/99	DP
Acetonitrile	ND	10	50.0	ug/Kg	10/20/99	DP
Acrolein	ND	10	2000.0	ug/Kg	10/20/99	DP
Acrylonitrile	ND	10	50.0	ug/Kg	10/20/99	DP
Allyl chloride	ND	10	50.0	ug/Kg	10/20/99	DP
Benzene	ND	10	50.0	ug/Kg	10/20/99	DP
Benzyl chloride	ND	10	50.0	ug/Kg	10/20/99	DP
Bromobenzene	ND	10	50.0	ug/Kg	10/20/99	DP
Bromochloromethane	ND	10	50.0	ug/Kg	10/20/99	DP
Bromodichloromethane	ND	10	50.0	ug/Kg	10/20/99	DP
Bromoform	ND	10	50.0	ug/Kg	10/20/99	DP
Bromomethane	ND	10	50.0	ug/Kg	10/20/99	DP
Carbon Disulfide	ND	10	50.0	ug/Kg	10/20/99	DP
Carbon tetrachloride	ND	10	50.0	ug/Kg	10/20/99	DP
Chlorobenzene	ND	10	50.0	ug/Kg	10/20/99	DP
Chloroethane	ND	10	50.0	ug/Kg	10/20/99	DP
Chloroform	ND	10	50.0	ug/Kg	10/20/99	DP
Chloromethane	ND	10	50.0	ug/Kg	10/20/99	DP
Dibromochloromethane	ND	10	50.0	ug/Kg	10/20/99	DP
Dibromomethane	ND	10	50.0	ug/Kg	10/20/99	DP
Dichlorodifluoromethane	ND	10	50.0	ug/Kg	10/20/99	DP
Ethyl benzene	223	10	50.0	ug/Kg	10/20/99	DP
Ethyl methacrylate	ND	10	50.0	ug/Kg	10/20/99	DP
Hexachlorobutadiene	ND	10	50.0	ug/Kg	10/20/99	DP
Iodomethane	ND	10	50.0	ug/Kg	10/20/99	DP

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 147850
Matrix: SOLID
Date Sampled: 10/13/99
Time Sampled: 09:00
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Sludge Cake
Sample Description: 12 Discrete Grabs Collected 10/13/99 from 0900hrs. to 1420hrs.

Analyte	Result	DF	DLR	Units	Date/Analyst	
8260B Volatile Organic Compounds						
Isopropylbenzene (Cumene)	ND	10	50.0	ug/Kg	10/20/99	DP
Methacrylonitrile	ND	10	50.0	ug/Kg	10/20/99	DP
Methyl methacrylate	ND	10	50.0	ug/Kg	10/20/99	DP
Methyl-tert-butylether (MTBE)	ND	10	50.0	ug/Kg	10/20/99	DP
Methylene chloride	ND	10	50.0	ug/Kg	10/20/99	DP
Naphthalene	ND	10	50.0	ug/Kg	10/20/99	DP
Pentachloroethane	ND	10	50.0	ug/Kg	10/20/99	DP
Propionitrile	ND	10	50.0	ug/Kg	10/20/99	DP
Styrene	ND	10	50.0	ug/Kg	10/20/99	DP
Tetrachloroethene	ND	10	50.0	ug/Kg	10/20/99	DP
Toluene	134	10	50.0	ug/Kg	10/20/99	DP
Trichloroethene	ND	10	50.0	ug/Kg	10/20/99	DP
Trichlorofluoromethane	ND	10	50.0	ug/Kg	10/20/99	DP
Vinyl acetate	ND	10	500.0	ug/Kg	10/20/99	DP
Vinyl chloride	ND	10	50.0	ug/Kg	10/20/99	DP
Xylenes, total	ND	10	50.0	ug/Kg	10/20/99	DP
cis-1,2-Dichloroethene	ND	10	50.0	ug/Kg	10/20/99	DP
cis-1,3-Dichloropropene	ND	10	50.0	ug/Kg	10/20/99	DP
cis-1,4-Dichloro-2-butene	ND	10	50.0	ug/Kg	10/20/99	DP
m and p-Xylene	ND	10	50.0	ug/Kg	10/20/99	DP
n-Butylbenzene	ND	10	50.0	ug/Kg	10/20/99	DP
n-Propylbenzene	ND	10	50.0	ug/Kg	10/20/99	DP
o-Xylene	ND	10	50.0	ug/Kg	10/20/99	DP
p-Isopropyltoluene	ND	10	50.0	ug/Kg	10/20/99	DP
sec-Butylbenzene	ND	10	50.0	ug/Kg	10/20/99	DP
tert-Butylbenzene	ND	10	50.0	ug/Kg	10/20/99	DP
trans-1,2-Dichloroethene	ND	10	50.0	ug/Kg	10/20/99	DP
trans-1,3-Dichloropropene	ND	10	50.0	ug/Kg	10/20/99	DP
trans-1,4-Dichloro-2-butene	ND	10	50.0	ug/Kg	10/20/99	DP
8270C Acid/Base/Neutral Extractables						
1,2,4-Trichlorobenzene	ND	1	333	ug/Kg	10/28/99	DP
1,2-Dichlorobenzene	ND	1	333	ug/Kg	10/28/99	DP
1,3-Dichlorobenzene	ND	1	333	ug/Kg	10/28/99	DP
1,4-Dichlorobenzene	ND	1	333	ug/Kg	10/28/99	DP
2,4,5-Trichlorophenol	ND	1	1665	ug/Kg	10/28/99	DP
2,4,6-Trichlorophenol	ND	1	1665	ug/Kg	10/28/99	DP

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 147850
Matrix: SOLID
Date Sampled: 10/13/99
Time Sampled: 09:00
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Sludge Cake
Sample Description: 12 Discrete Grabs Collected 10/13/99 from 0900hrs. to 1420hrs.

8270C Acid/Base/Neutral Extractables

Analyte	Result	DF	DLR	Units	Date/Analyst	
2,4-Dichlorophenol	ND	1	333	ug/Kg	10/28/99	DP
2,4-Dimethylphenol	ND	1	333	ug/Kg	10/28/99	DP
2,4-Dinitrophenol	ND	1	1665	ug/Kg	10/28/99	DP
2,4-Dinitrotoluene	ND	1	333	ug/Kg	10/28/99	DP
2,6-Dinitrotoluene	ND	1	333	ug/Kg	10/28/99	DP
2-Chloronaphthalene	ND	1	333	ug/Kg	10/28/99	DP
2-Chlorophenol	ND	1	333	ug/Kg	10/28/99	DP
2-Methylnaphthalene	ND	1	333	ug/Kg	10/28/99	DP
2-Methylphenol	ND	1	333	ug/Kg	10/28/99	DP
2-Nitroaniline	ND	1	1665	ug/Kg	10/28/99	DP
2-Nitrophenol	ND	1	333	ug/Kg	10/28/99	DP
3,3-Dichlorobenzidine	ND	1	333	ug/Kg	10/28/99	DP
3-Nitroaniline	ND	1	1665	ug/Kg	10/28/99	DP
4,6-Dinitro-2-methylphenol	ND	1	1665	ug/Kg	10/28/99	DP
4-Bromophenyl-phenylether	ND	1	333	ug/Kg	10/28/99	DP
4-Chloro-3-methylphenol	ND	1	333	ug/Kg	10/28/99	DP
4-Chloroaniline	ND	1	333	ug/Kg	10/28/99	DP
4-Chlorophenyl-phenylether	ND	1	333	ug/Kg	10/28/99	DP
4-Methylphenol	ND	1	333	ug/Kg	10/28/99	DP
4-Nitroaniline	ND	1	1665	ug/Kg	10/28/99	DP
4-Nitrophenol	ND	1	1665	ug/Kg	10/28/99	DP
Acenaphthene	ND	1	333	ug/Kg	10/28/99	DP
Acenaphthylene	ND	1	333	ug/Kg	10/28/99	DP
Anthracene	ND	1	333	ug/Kg	10/28/99	DP
Benzo(a)anthracene	ND	1	333	ug/Kg	10/28/99	DP
Benzo(a)pyrene	ND	1	333	ug/Kg	10/28/99	DP
Benzo(b)fluoranthene	ND	1	333	ug/Kg	10/28/99	DP
Benzo(g,h,i)perylene	ND	1	333	ug/Kg	10/28/99	DP
Benzo(k)fluoranthene	ND	1	333	ug/Kg	10/28/99	DP
Benzoic Acid	ND	1	333	ug/Kg	10/28/99	DP
Benzyl alcohol	ND	1	333	ug/Kg	10/28/99	DP
Butylbenzylphthalate	ND	1	333	ug/Kg	10/28/99	DP
Chrysene	ND	1	333	ug/Kg	10/28/99	DP
Di-n-butylphthalate	ND	1	333	ug/Kg	10/28/99	DP
Di-n-octylphthalate	ND	1	333	ug/Kg	10/28/99	DP
Dibenz(a,h)anthracene	ND	1	333	ug/Kg	10/28/99	DP
Dibenzofuran	ND	1	333	ug/Kg	10/28/99	DP
Diethylphthalate	ND	1	333	ug/Kg	10/28/99	DP

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 147850
Matrix: SOLID
Date Sampled: 10/13/99
Time Sampled: 09:00
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Sludge Cake
Sample Description: 12 Discrete Grabs Collected 10/13/99 from 0900hrs. to 1420hrs.

Analyte	Result	DF	DLR	Units	Date/Analyst	
8270C Acid/Base/Neutral Extractables						
Dimethylphthalate	ND	1	333	ug/Kg	10/28/99	DP
Fluoranthene	ND	1	333	ug/Kg	10/28/99	DP
Fluorene	ND	1	333	ug/Kg	10/28/99	DP
Hexachlorobenzene	ND	1	333	ug/Kg	10/28/99	DP
Hexachlorobutadiene	ND	1	333	ug/Kg	10/28/99	DP
Hexachlorocyclopentadiene	ND	1	333	ug/Kg	10/28/99	DP
Hexachloroethane	ND	1	333	ug/Kg	10/28/99	DP
Indeno(1,2,3-c,d)pyrene	ND	1	333	ug/Kg	10/28/99	DP
Isophorone	ND	1	333	ug/Kg	10/28/99	DP
N-Nitroso-di-n-propylamine	ND	1	333	ug/Kg	10/28/99	DP
N-Nitrosodiphenylamine	ND	1	333	ug/Kg	10/28/99	DP
Naphthalene	ND	1	333	ug/Kg	10/28/99	DP
Nitrobenzene	ND	1	333	ug/Kg	10/28/99	DP
Pentachlorophenol	ND	1	1665	ug/Kg	10/28/99	DP
Phenanthrene	ND	1	333	ug/Kg	10/28/99	DP
Phenol	ND	1	333	ug/Kg	10/28/99	DP
Pyrene	ND	1	333	ug/Kg	10/28/99	DP
bis(2-Chloroethoxy)methane	ND	1	333	ug/Kg	10/28/99	DP
bis(2-Chloroethyl)ether	ND	1	333	ug/Kg	10/28/99	DP
bis(2-Chloroisopropyl) ether	ND	1	333	ug/Kg	10/28/99	DP
bis(2-Ethylhexyl)phthalate	5560	1	333	ug/Kg	10/28/99	DP
8310 PAH's by HPLC						
Acenaphthene	ND	2	1.0	mg/Kg	11/4/99	LS
Acenaphthylene	ND	2	1.0	mg/Kg	11/4/99	LS
Anthracene	ND	2	0.1	mg/Kg	11/4/99	LS
Benzo(a)anthracene	ND	2	0.1	mg/Kg	11/4/99	LS
Benzo(a)pyrene	ND	2	0.1	mg/Kg	11/4/99	LS
Benzo(b)fluoranthene	ND	2	0.1	mg/Kg	11/4/99	LS
Benzo(ghi)perylene	ND	2	0.1	mg/Kg	11/4/99	LS
Benzo(k)fluoranthene	ND	2	0.1	mg/Kg	11/4/99	LS
Chrysene	ND	2	0.1	mg/Kg	11/4/99	LS
Dibenzo(a,h)anthracene	ND	2	0.1	mg/Kg	11/4/99	LS
Fluoranthene	ND	2	0.1	mg/Kg	11/4/99	LS
Fluorene	ND	2	0.3	mg/Kg	11/4/99	LS
Indeno(1,2,3-cd)pyrene	ND	2	0.1	mg/Kg	11/4/99	LS
Naphthalene	ND	2	1.0	mg/Kg	11/4/99	LS

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 147850
Matrix: SOLID
Date Sampled: 10/13/99
Time Sampled: 09:00
Sampled By:

Client: City of Oceanside
Client Sample ID: SLR Sludge Cake
Sample Description: 12 Discrete Grabs Collected 10/13/99 from 0900hrs. to 1420hrs.

Analyte	Result	DF	DLR	Units	Date/Analyst	
8310 PAH's by HPLC						
Phenanthrene	ND	2	0.2	mg/Kg	11/4/99	LS
Pyrene	ND	2	0.1	mg/Kg	11/4/99	LS

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Location: San Luis Rey Wastewater Treatment Plant – Continued:

Toxicity Characterization Leaching Procedure (TCLP) Analyses: See following pages for results of testing for TCLP inorganics, pesticides, herbicides, volatiles and semivolatiles on a sample taken on May 17, 1999. All data is well within limits. The sludge is not hazardous.

Order #: 123220
Matrix: SOLID
Date Sampled: 5/17/99
Time Sampled: 0930 to 1215
Sampled By: Plant Operators

Client: City of Oceanside
Client Sample ID: SLR Cake

Analyte	Result	DF	DLR	Units	Date/Analyst	
1311/245.1 Mercury TCLP						
Mercury TCLP	ND	1	0.004	mg/L	5/27/99	NK
1311/6010 TCLP (ICP Metals)						
Barium TCLP	1.80	1	0.005	mg/L	5/28/99	MT
Cadmium TCLP	ND	1	0.004	mg/L	5/28/99	MT
Chromium TCLP	0.030	1	0.005	mg/L	5/28/99	MT
Silver TCLP	ND	1	0.005	mg/L	5/28/99	MT
1311/7060A Arsenic TCLP by GFAA						
Arsenic TCLP	ND	10	0.01	mg/L	5/28/99	MT
1311/7420 TCLP Lead by AA						
Lead TCLP	ND	1	0.1	mg/L	5/26/99	MT
1311/7740 TCLP Selenium by GFAA						
Selenium TCLP	ND	10	0.01	mg/L	5/28/99	MT
1311/8080 TCLP Compounds Only						
Chlorodane TCLP	ND	1	0.01	mg/L	6/ 6/99	DY
Endrin TCLP	ND	1	0.002	mg/L	6/ 6/99	DY
Heptachlor TCLP	ND	1	0.001	mg/L	6/ 6/99	DY
Heptachlor epoxide TCLP	ND	1	0.001	mg/L	6/ 6/99	DY
Lindane TCLP	ND	1	0.001	mg/L	6/ 6/99	DY
Methoxychlor TCLP	ND	1	0.05	mg/L	6/ 6/99	DY
Toxaphene TCLP	ND	1	0.01	mg/L	6/ 6/99	DY
1311/8150 TCLP Compounds Only						
2,4,5-TP (Silvex) TCLP	ND	1	0.01	mg/L	6/ 9/99	DY
2,4-D TCLP	ND	1	0.05	mg/L	6/ 9/99	DY

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

Order #: 123220
Matrix: SOLID
Date Sampled: 5/17/99
Time Sampled: 0930 to 1215
Sampled By: Plant Operators

Client: City of Oceanside
Client Sample ID: SLR Cake

Analyte	Result	DF	DLR	Units	Date/Analyst
1311/8260 TCLP Compounds Only					
1,1 Dichloroethylene TCLP	ND	10	0.05	mg/L	6/ 2/99 AHT
1,2 Dichloroethane TCLP	ND	10	0.05	mg/L	6/ 2/99 AHT
Benzene TCLP	ND	10	0.05	mg/L	6/ 2/99 AHT
Carbon Tetrachloride TCLP	ND	10	0.05	mg/L	6/ 2/99 AHT
Chlorobenzene TCLP	ND	10	0.05	mg/L	6/ 2/99 AHT
Chloroform TCLP	ND	10	0.05	mg/L	6/ 2/99 AHT
Methylethylketone TCLP	13.8	10	0.05	mg/L	6/ 2/99 AHT
Tetrachloroethylene TCLP	ND	10	0.05	mg/L	6/ 2/99 AHT
Trichloroethylene TCLP	ND	10	0.05	mg/L	6/ 2/99 AHT
Vinyl Chloride TCLP	ND	10	0.05	mg/L	6/ 2/99 AHT
1311/8270 TCLP Compounds Only					
1,4 Dichlorobenzene TCLP	ND	4	0.04	mg/L	6/10/99 DP
2,4 Dinitrotoluene TCLP	ND	4	0.2	mg/L	6/10/99 DP
2,4,5 Trichlorophenol TCLP	ND	4	0.2	mg/L	6/10/99 DP
2,4,6 Trichlorophenol TCLP	ND	4	0.2	mg/L	6/10/99 DP
Cresol TCLP	ND	4	0.04	mg/L	6/10/99 DP
Hexachloro-1-3-butadiene TCLP	ND	4	0.04	mg/L	6/10/99 DP
Hexachlorobenzene TCLP	ND	4	0.04	mg/L	6/10/99 DP
Hexachloroethane TCLP	ND	4	0.04	mg/L	6/10/99 DP
Nitrobenzene TCLP	ND	4	0.04	mg/L	6/10/99 DP
Pentachlorophenol TCLP	ND	4	0.2	mg/L	6/10/99 DP
Pyridine TCLP	ND	4	2.0	mg/L	6/10/99 DP
m,p-Cresol TCLP	0.237	4	0.04	mg/L	6/10/99 DP
m-Cresol TCLP	ND	4	0.04	mg/L	6/10/99 DP
o-Cresol TCLP	ND	4	0.04	mg/L	6/10/99 DP
p-Cresol TCLP	ND	4	0.04	mg/L	6/10/99 DP

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

City of Oceanside
SEWAGE SLUDGE ANNUAL REPORT - 1999

Location: San Luis Rey Wastewater Treatment Plant – Continued:

RPI Bio Gro Certifications for 1999: See following pages for monthly certifications that the management practices in §503.14 and site restrictions in §503.32(b)(5) have been for each site on which bulk sewage is applied.

CERTIFICATION

"I certify, under penalty of law, that the management practices in §503.14 and the site restrictions in §503.32(b)(5) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Oceanside, CA San Luis Rey WWTP

Reporting Period: January 1999

Name: Ken Lewis, P.E.
Operations Manager — Residuals Processing Inc.

Signature: _____ Date: 2-25-99

Name: Bob Bernlechi, P.E.
Vice President and General Manager — Residuals Processing Inc.

Signature: _____ Date: 2-24-99

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

TYPE 6: CB T3 LA MP SR

CERTIFICATION

"I certify, under penalty of law, that the management practices in §503.14 and the site restrictions in §503.32(b)(5) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Oceanside, CA San Luis Rey WWTP

Reporting Period: February 1999

Name: John Pugliaresi
Operations Manager
Residuals Processing Inc.

Signature: _____ Date: 3/24/99

Name: Bob Bernicchi, P.E.
Vice President and General Manager
Residuals Processing Inc.

Signature: _____ Date: 3-24-99

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

CERTIFICATION

"I certify, under penalty of law, that the management practices in §503.14 and the site restrictions in §503.32(b)(5) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Oceanside, CA San Luis Rey WWTP

Reporting Period: March 1999

Name: John Pugliaresi — Residuals Processing Inc.
Operations Manager

Signature: _____ Date: 6/1/99

Name: Bob Bernicchi, P.E. — Residuals Processing Inc.
Vice President and General Manager

Signature: _____ Date: 6-17-99

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

CERTIFICATION

"I certify, under penalty of law, that the management practices in §503.14 and the site restrictions in §503.32(b)(5) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Oceanside, CA San Luis Rey WWTP

Reporting Period: April 1999

Name: John Pugliaresi
Operations Manager — Residuals Processing Inc.

Signature: _____ Date: 6/1/99

Name: Bob Bernicchi, P.E.
Vice President and General Manager — Residuals Processing Inc.

Signature: _____ Date: 6-17-99

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

CERTIFICATION

"I certify, under penalty of law, that the management practices in §503.14 and the site restrictions in §503.32(b) (5) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Projects(s): OCEANSIDE, CA SAN LUIS REY WWTP

Reporting Period: May 1999

Name: John Pugliaresi R.P.I ./ Bio Gro

Signature: _____ Date 6/25/99

Name: Bob Bernicchi R.P.I. / Bio Gro

Signature: _____ Date 6-28-99

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restricitons, seasonal water table restricitons, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclaimation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

TYPE 6: CB T3 LA MP SR

CERTIFICATION

"I certify, under penalty of law, that the management practices in §503.14 and the site restrictions in §503.32(b) (5) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Projects(s): OCEANSIDE, CA SAN LUIS REY WWTP

Reporting Period: June 1999

Name: John Pugliaresi R.P.I ./ Bio Gro

Signature: _____ Date 8/4/99

Name: Bob Bernicchi R.P.I. / Bio Gro

Signature: _____ Date 8/4/99

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restricitons, seasonal water table restricitons, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

TYPE 6: CB T3 LA MP SR

CERTIFICATION

"I certify, under penalty of law, that the management practices in §503.14 and the site restrictions in §503.32(b)(5) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Oceanside, CA San Luis Rey WWTP

Reporting Period: July 1999

Name: John Pugliaresi
Operations Manager — Residuals Processing Inc.

Signature: _____ Date: 8/18/99

Name: Bob Bernicchi, P.E.
Vice President and General Manager — Residuals Processing Inc.

Signature: _____ Date: 8/19/99

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

CERTIFICATION

"I certify, under penalty of law, that the management practices in §503.14 and the site restrictions in §503.32(b)(5) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Oceanside, CA San Luis Rey WWTP

Reporting Period: August 1999

Name: John Pugliaresi — RPI/Bio Gro
Operations Manager

Signature: _____ Date: 9/23/99

Name: Bob Bernicchi, P.E. — RPI/Bio Gro
Vice President and General Manager

Signature: _____ Date: 9-24-99

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

CERTIFICATION

"I certify, under penalty of law, that the management practices in §503.14 and the site restrictions in §503.32(b)(5) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Oceanside, CA San Luis Rey WWTP

Reporting Period: September 1999

Name: John Pugliaresi — RPI/Bio Gro
Operations Manager

Signature: _____ Date: 10/27/99

Name: Bob Bernicchi, P.E. — RPI/Bio Gro
Vice President and General Manager

Signature: _____ Date: 10-28-99

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

TYPE 6: CB T3 LA MP SR

CERTIFICATION

"I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in §503.14 and the site restrictions in §503.32(b)(5) was prepared for each site on which bulk sewage sludge was applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Oceanside, CA San Luis Rey WWTP

Reporting Period: October 1999

Name: John Pugliaresi RPI - Bio Gro

Signature: _____ Date: 1/12/00

Name: Bob Bernicchi RPI - Bio Gro

Signature: _____ Date: 1-14-00

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

NTYPE 6: CB T3 LA MP SR

CERTIFICATION

"I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in §503.14 and the site restrictions in §503.32(b)(5) was prepared for each site on which bulk sewage sludge was applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Oceanside, CA San Luis Rey WWTP

Reporting Period: November 1999

Name: John Pugliaresi RPI - Bio Gro

Signature: _____ Date: 12/22/99

Name: Bob Bernicchi RPI - Bio Gro

Signature: _____ Date: 12-27-99

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

NTYPE 6: CB T3 LA MP SR

CERTIFICATION

"I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in §503.14 and the site restrictions in §503.32(b)(5) was prepared for each site on which bulk sewage sludge was applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Oceanside, CA San Luis Rey WWTP

Reporting Period: December 1999

Name: John Pugliaresi RPI - Bio Gro

Signature: _____ Date: 1/12/00

Name: Bob Bernicchi RPI - Bio Gro

Signature: _____ Date: 1-14-00

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

NTYPE 6: CB T3 LA MP SR

CERTIFICATION

"I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in §503.14 and the site restrictions in §503.32(b)(5) was prepared for each site on which bulk sewage sludge was applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Oceanside, CA La Salina WWTP

Reporting Period: December 1999

Name: John Pugliaresi RPI - Bio Gro

Signature: _____ Date: 1/12/00

Name: Bob Bernicchi RPI - Bio Gro

Signature: _____ Date: 1-14-00

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

NTYPE 6: CB T3 LA MP SR